

## Chapter 12: Liabilities

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\*W The solution to this assignment is on the text Web site and in the Study Guide. The solution is marked **WEB**.

## Questions

1. The definition of a liability embodies a *future* sacrifice of assets or services, a *present* obligation, as a result of a *past* transaction or event.
2. A financial liability exists when one company has a liability and another entity has a financial asset. Non-financial liabilities are all other liabilities; no corresponding financial asset arises on the books of the counter-party. Examples include liabilities for environmental remediation, lawsuits and warranties. [Other examples are acceptable.] Liabilities must be probable of payment (>50% probability) to be recognized. Amounts are measured at best estimate, which is *expected value* for large populations and *most likely outcome* for small populations. Most likely outcome is informed by expected value and cumulative probabilities. If suggested proposals for change are adopted, the liability will be measured at expected value as long as an obligating event takes place.
3. Accounting for the lawsuit is complicated at this stage because the company and/or the lawyer would be unwilling to admit in print (i.e., in the financial statements) that they would settle the lawsuit, and at what amount. This might provide too much information to the plaintiff. Note disclosure of the lawsuit, in general terms, is the likely outcome, although an accrual for \$150,000 would be made if the company were to share this information with its accountants. This is the ethically appropriate outcome. If the accrual is made, separate disclosure would be minimal so its treatment would not be obvious to the plaintiff.
4. A purchase order is an executory contract, and is not a liability until the other party performs its obligations under the contract. That is, the amount becomes a liability when the goods are delivered, but not until then. Some liability would be recognized if the contract became an onerous contract. This would happen if the fair value of the goods were to fall below \$10 per case. A liability would be recognized for the amount of the loss because that amount has no economic value.
5. No liability will be recorded for coupons that involve a modest decrease in purchase price. The only result of the coupon program is that gross profit will be lower in the period in which the coupons are used. A liability would only be recorded if the coupon program resulted in cash being paid out, or products sold at less than cost. Here, it is assumed that the \$14 regular price involves more than \$1 of gross profit.
6. The obligation under a self-insurance program is measured as the expected cash to be paid for losses that are filed but not yet settled, plus cash to be paid because of incidents that have taken place but where losses have not yet been discovered. The obligation cannot be inflated to also include expected events that have not yet happened, even if there is a statistical likelihood that such events will occur in the future.

7. The loan should be valued at its present value:  $\$10,000 (P/F, 10\%, 2) = \$8,265$ . Short-term debt is normally not discounted, so would more likely be valued at  $\$10,000$ . The practice of not discounting current liabilities is justified on materiality grounds.
8. Par value (also known as the face value, principal or maturity value) is the principal amount paid on maturity. The (market) price of the bond is the present value of its cash flows (both principal and normal interest payments) discounted at the market interest rate on the issuance or valuation date. Par value and the market price will be identical when the stated (contractual) interest rate equals the market interest rate. The two values are different when the interest rates are different. If a  $\$5,000$  bond is sold for 101, the proceeds would be  $\$5,050 (\$5,000 \times 101\%)$ .
9. The primary difference between straight-line and effective-interest amortization is the measurement of interest expense. Under the straight-line method, an equal dollar amount of expense and amortization is recognized each period; under the effective-interest method, a constant *rate* (i.e., the market interest rate on the day of issuance) is used to calculate interest. The expense is a function of the outstanding net liability; the dollar amount of interest expense and amortization recognized changes annually. The effective interest method is required practice because it provides a more accurate measure of the cost of borrowing.
10. The bond premium or discount is a contra account to the par value of the long-term liability, bonds payable, on the statement of financial position, and either increases (premium) or decreases (discount) it accordingly. The amortization of the bond premium or discount is part of interest expense, and either increases (discount) or decreases (premium) the expense to adjust the nominal rate to an approximation of the effective rate.
11. a) The amount of accrued interest expense recognized at the end of the accounting period is the amount of interest that has accumulated (i.e., incurred and not yet paid) since the last interest payment. It will be paid on the next interest date.  
b) The amount of discount or premium amortization recognized is the amount that is required to reflect the yield rate in interest expense. Interest expense is not the cash paid after this adjustment. It is related to time and the carrying amount of the bond.
12. Accrued interest must be recognized when bonds are sold (or purchased) between interest dates because the full amount of the cash interest as specified in the bond agreement is paid to the holder of the bond on each interest date regardless of the sale (or issue) date. The purchaser advances to the seller that portion of the periodic interest accrued (i.e., incurred) up to the date of sale. The net amount reflects the period the bond was actually outstanding.

13. The upfront administration fee would not be recognized as an expense when paid. Instead, it would factor into a calculation of the effective interest rate over the life of the loan, which would be higher than the stated interest rate of 6%.
14. Capitalization of borrowing costs begins at the earliest of the date when the money is borrowed, a payment is made on the asset, or work starts to make the asset ready for use.
15. The borrowing cost for general borrowings reflects the weighted average of loan sources, or 6.4%  $((4\% \times \$2 \text{ million}) + (7\% \times \$8 \text{ million})/\$10 \text{ million total financing.})$
16. A gain or loss will occur on the repayment of a bond payable at any time that the repayment price is different than the net carrying value of the bond, including unamortized premium or issuance costs, if any.
17. The bond discount or premium would be part of a bond retirement entry when the bond is retired prior to maturity, because the discount or premium would have a remaining balance to be eliminated. The amount that is eliminated is the unamortized balance.
18. A defeasance is a financial arrangement where the debtor irrevocably places investments in a trust fund for the sole purpose of using those resources to pay interest and principal on specified debt. The creditor agrees to this and legal release is given to the borrower. In an in-substance defeasance, the transaction is the same except there is no legal release by the creditor. Debt subject to a defeasance arrangement is derecognized, but debt subject to an in-substance defeasance is left on the books.
19. Exchange loss:  $\$325,000 (\$1.08 - \$1.16) = \$26,000$ . This is the change in the exchange rate during the year.
20. Cash flow for interest is  $\$39,000 (\$45,500 - \$4,500 - \$2,000)$ .

## Cases

### Case 12-1

#### Dry Clean Depot Limited

##### *Overview*

Dry Clean Depot Limited (DCDL) is a private company that has elected to comply with IFRS. The company is reasonably small, with \$7 million in sales, and 40 retail locations. DCDL has just negotiated a new equipment loan, with covenants that specify a maximum 2-to-1 debt-to-equity ratio. Other covenants require a minimum level of \$500,000 in cash, and restrict dividends to \$100,000 per year. These latter covenants require compliance, but are not affected by accounting policies. The debt-to-equity ratio restriction means that the company would prefer to maximize equity (earnings) and minimize debt.

##### *Issues*

1. Effective cost of loan
2. Capitalization of borrowing costs
3. Capital cost of equipment and depreciation
4. Lease arrangement
5. Environmental obligation
6. Revenue recognition
7. Lease terms

##### *Analysis and conclusion*

###### 1. Effective cost of loan

The effective interest rate for the \$2,000,000 loan is determined by looking at the annual carrying cost (\$90,000 per year) and also the \$377,000 upfront fee. When both are factored in, the effective interest rate is 7.2%:

Effective interest rate =

Solve for x in,

$$\begin{aligned} \$2,000,000 &= \$377,000 + \$90,000 (P/A, x \%, 10) + \$2,000,000 (P/F, x \%, 10) \\ x &= \underline{7.2\%} \end{aligned}$$

Upfront fees are recorded as a discount and amortized to interest expense (etc.) during the life of the loan. Since the discount is netted with the loan on the SFP, this helps modestly reduce debt balances for covenant calculations.

## 2. Capitalization of borrowing costs

The loan is specific to the equipment purchase, and interest must be capitalized during the acquisition period, which is lengthy. After the acquisition period, interest is an expense. If there were investment earnings on idle loan cash, for the period between the time that the loan money is advanced and amounts are paid out to suppliers, such earnings are netted in the interest capitalization calculation.

General borrowing costs for the portion of the purchase price financed through DCDL cash flows are also be capitalized, but no imputed costs for equity. The borrowing cost must be calculated on a weighted average basis.

Further information on each of these issues must be gathered.

Interest to be capitalized:

$$\text{Loan balance} \quad \$2,000,000 \times 7.2\% \times 10/12 \quad \underline{\$120,000}$$

The ten month period consists of six months for production, three months for shipping plus one month for installation and testing. In terms of time line, the loan is assumed to be advanced and the equipment immediately ordered. If there is a time lag, the capitalization period will be longer because capitalization will start when the loan commences. Interest is capitalized when the loan monies are advanced, in the current fiscal period.

Additional interest will be capitalized for amounts financed from general borrowings. This amount is not determinable but information must be gathered to calculate the adjustment.

Interest capitalization will preserve levels of earnings (equity), making the debt-to-equity ratio easier to achieve.

## 3. Capital cost of equipment and depreciation

Many of the costs associated with equipment acquisition will be capitalized, as follows:

<b>Description</b>	<b>Amount</b>
Invoice price	\$2,450,000
Interest cost (above)	120,000
Interest on general borrowing	??
Shipping	34,000
Duty (\$2,450,000 x 20%)	490,000
Installation & testing	<u>38,000</u>
	<u>\$3,132,000 + ??</u>

Equipment is depreciated over its life using an acceptable depreciation method such as straight-line or declining balance. Policy for this must be set, along with a determination of the useful life and salvage value, or the declining balance rate. The equipment should be evaluated to see if components have various life spans; if so, then depreciation must be stratified to reflect this fact.

#### 4. Lease Arrangement

DCDL must evaluate the need to record a liability for the onerous contract that is represented by the lease situation in Sudbury. The landlord has been informed that DCDL will vacate, and a sub-tenant located, with a signed contract for the sub-lease. This proves positive intent to act.

DCDL has an obligation to pay \$27,500 for occupancy costs each year for the next three years, and has a sub-tenant that is willing to pay at least \$5,000 per year. Therefore, there is an unfunded obligation of \$22,500 per year. This may be less if the extra sub-rent in years 2 and 3, 10% of the sub-tenant sales in excess of \$150,000, can be reliably estimated. However, since DCDL has had negative experience with this location, and the nature of the sub-tenant operation is unknown, no amount has been estimated in these calculations. This area must be explored further.

Since the payments take place over three years, the time value of money must be estimated to value the liability. Interest expense (accretion) will then be recorded each year. The interest rate to use should be a borrowing rate for operating activities over a three-year period. This rate is not known and must be established. A rate of 7%, based on the equipment loan (7.2%) has been used but this rate may not be comparable because term (10 years) and security are different.

Using the 7% rate, and assuming rent is payable at the beginning of each year:

Liability balance	$\$22,500 \times (P/AD, 7\%, 3)$ (rounded)	<u>\$63,000</u>
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This amount will be recorded as a liability, worsening the debt-to-equity ratio. It is not avoidable.

## 5. Environmental obligation

DCDL has a contractual liability in eight locations for environmental remediation in the event of contamination caused by dry cleaning operations, in particular, contamination caused by perc.

These obligations must be estimated and discounted for the time value of money if payment is delayed. As for the onerous contract obligation, an interest rate of 7% will be used as an estimate but a more appropriate interest rate (term and security) must be estimated.

The liability exists because DCDL stands ready to meet any potential costs. The major issue is measurement of the liability. If there is no contamination, then the liability has a zero value and there is no amount recorded. This appears to be the case for most premises, and regular testing provides comfort that liabilities are identified on a timely basis.

For one location, however, it appears as though there might be an environmental issue. Further testing is being done to confirm this, and the outcome of this testing will determine if remediation, and liability recognition, is needed.

If action is needed, then the cost and the timing of action must be determined. The cost has been suggested in the \$250,000 to \$500,000 range. Costs must be further explored, and an expected value established. If, for example, both of these estimates were equally likely, then the amount to be accrued would be \$375,000. Discounted for two years at 7%, this is a \$325,000 (rounded) liability. This amount is also capitalized as an asset, amortized over the remaining lease term.

Note that additional liability recognition of a significant amount such as this, has negative implications for the covenant agreement. Some covenant renegotiation might be considered, or perhaps additional equity financing might be possible.

More importantly, the environmental obligations call the business model into question, and appropriate pricing and management of operational risks should be considered and evaluated at a strategic level.

The cost of vacating premises at the end of the lease would also have to be identified and evaluated for recognition. If DCDL has agreed to move after environmental cleanup, and this has costs, then the amount must be reflected in the financial statements. It may well be immaterial.

## 6. Revenue recognition

DCDL sold prepaid dry cleaning services cards this year. When cards are issued, a liability for unearned revenue is created, and when the cards are used, the liability is decreased and revenue is recognized. This is appropriate accounting. Card value of \$126,000 ( $\$468,000 - \$342,000$ ) is outstanding at year-end, or 27% of the gross cards issued.

The issue that needs to be examined is how the initial \$20 price reduction is treated. A \$120 card costs \$100 for the customer, which is in essence a sales discount. The amount must be relabeled as a sales discount, not an expense, and shown as a contra account to sales. This is a presentation issue. Revenue should reflect cash value.

This issue can be explained in one of two ways:

1. Services are being sold for a lower price, but this is not below cost (gross profit is usually 60%); services are still profitable after the reduction granted with the cards. Valuation of revenue and liability should be at the cash amount received not the regular price. Therefore, sales of the period should be \$285,000 ( $\$342,000/1.2$ ), and the liability should be recorded at \$105,000 ( $\$126,000/1.2$ ). This increases net income (now has  $\$342,000 - \$78,000$  recorded) and liabilities.
2. Alternatively, valuation can be explained through the discount account. The discount amount, \$78,000 for the cards issued, has been entirely expensed in the current period. The question is whether this relates to this period, or whether the \$78,000 should be prorated consistent with card use. If it were prorated, the unused portion would reduce the reported liability.

There is no need to establish a liability for more than the proceeds received. Accordingly, the sales discount should be recognized as it is used. The discount should be adjusted to \$57,000 ( $\$78,000 \times 342/468$ ) and the remaining \$21,000 recorded as a contra to the liability account, reducing it to \$105,000 ( $\$126,000 - \$21,000$ ).

Either of these explanations is acceptable.

DCDL expects that 5 to 10% of the value on the cards will not be used. At the volumes sold this year, this represents \$23,400 to \$46,800 of the liability (gross) outstanding at year-end or \$19,500 to \$39,000 when deflated to the lower cash amount. At year-end, this is approximately 20% to 45% of the outstanding liability, which is very high. The company has a legal obligation in perpetuity for these amounts, and must stand ready to honor the cards if they are used at any point in the future. The company lacks history to use in determining any unused

percentage. Accordingly, at this stage in the life of this program, it would not be advisable to decrease the liability for expected unused cards.

In terms of covenant implications, scaling back the liability and increasing earnings this year are both positive outcomes. It would be preferable to reduce the liability for unused cards, but if this cannot be measured, it certainly cannot be manipulated.

## 7. Lease arrangements

DCDL is a tenant in forty locations. The leases have been described as short-term rentals, over three to five years. As such, they would almost certainly qualify as operating leases, and no liability for the leases would be recorded. DCDL should be aware, though, that the IASB is considering a proposal to capitalize all leases regardless of length of term. This would result in liability recognition for DCDL. The loan contract just negotiated puts a limit on debt-to-equity over a ten-year time span, and capitalization might be required within this window. Therefore, DCDL should negotiate in advance with the lender around the scenario of an eventual capitalization, perhaps asking that such lease obligations be excluded from the ratio, or that the ratio be increased to reflect the alternate accounting rules.

### *Conclusion*

Overall, liabilities have been established for environmental issues, onerous contracts, and potentially for leases. If DCDL is now close to the debt covenant for debt-to-equity, this will be uncomfortable. It is still the inception of the loan contract. The company should look at projections for key financial variables and decide whether the loan covenant is reasonable. If not, re-negotiation or alternate financing sources must be explored.

## Case 12-2 Darcy Limited

### *Overview*

Michel Lessard has requested that the financial statements of Darcy Limited, a company that manufactures equipment for the oil and gas industry, be reviewed for the purpose of valuation. Ethically, it is important to provide advice on a fair price to Mr. Lessard without overstating or understating the company's situation; however, there is a natural bias to reduce earnings and assets given that Mr. Lessard represents a group of purchasers and this is the beginning of negotiations. Since no one else is relying on this report, this bias is **ethically** acceptable.

The valuation formula is based on net tangible assets and earnings, so any adjustment that changes either of these metrics will change the purchase price. Earnings must include only recurring items, assumed to repeat in the future. Ongoing items must be valued at the amount that would be expected to continue, and one-time items are not included in the valuation rule.

### *Issues*

1. Financial health of Darcy Limited
2. Valuation of low-interest loan
3. Valuation of warranty expense and obligation
4. Goodwill write-up
5. Valuation of capital assets
6. Revenue recognition
7. Valuation of allowance for doubtful accounts
8. Restatement of foreign currency accounts receivable
9. Adjustments to earnings for non-recurring items now included
10. Calculation of bid ranges/ Conclusion.

### *Analysis and conclusion*

1. Financial health of Darcy Limited

The financial health of Darcy is somewhat suspect. There is no cash on the SFP, and there is a new operating loan that is likely needed just for day-to-day purposes. The current ratio has declined from 2.94 to 1.69, reflecting additional short-term debt. However, the company is carrying little long-term debt, and has significant capital assets. If land or other assets could be sold or mortgaged, liquidity may not be a concern.

There has been a large buildup in accounts receivable. Both the warranty liability and the allowance for doubtful accounts are very low, and research expenses have been curtailed,

indicating that the company's actions and policies may be affected by the potential sale of the company. This may reflect badly on the **ethics** of management.

Of critical concern is that there appears to be no real history of profits, as all the retained earnings balance comes from this current year plus the past year; retained earnings were only \$20 prior to last year. Either there were no profits, or sizable dividends were declared.

Sales declined from \$45 million to \$32.7 million this year, indicating possible operating problems. Alternatively, the industry may be going through a cyclical downturn. Many expenses appear to be low – including research and administrative expenses – and this has helped keep earnings at a respectable level. This may not be reflective of ongoing operations, though. Return on equity is low, even with the curtailed expenses.

These factors must be investigated prior to any offer being made. Valuation rules of thumb are meaningless if the company has operating problems. Budgets and prospects for the coming years must be carefully investigated.

Assuming that the purchasers wish to go ahead, valuation adjustments have been examined in several areas.

## 2. Valuation of low-interest loan

Darcy purchased \$2,600 of capital equipment this year, financed with a five-year low-interest loan. The loan is at 2%, while market rates are 6%. In such a case, the loan and the capital assets are valued at the present value of the loan, and interest is based on the 6% market rate. Amortization is based on the (lower) present value, not the nominal amount, of the transaction.

These adjustments are calculated in Exhibit 3. Including revaluation and three months of amortization, the loan balance reduces from \$2,600 to \$2,181, and the capital assets reduce from \$2,519 to \$2,094. Interest and amortization also change. These adjustments have a minor effect on the purchase price because they reduce both assets and liabilities, and increase and reduce earnings to net out to a small adjustment.

## 3. Valuation of warranty expense and obligation

The warranty obligation is very low, and has declined significantly over the year. Adequacy of this obligation has been evaluated by looking at the actual claims history, related to the year of sale. See Exhibit 4. Only two years' data has been made available over the complete warranty term. Once the expenditures have been related to the year of sale, though, it appears that 3% of sales (or perhaps up to 3.4% of sales) is a more appropriate expense level than the 2% of sales used now. Additional evidence should be gathered to prove this calculation.

If the warranty expense were increased to 3% of sales, an additional \$330 of warranty expense would be recorded in the current year, and the warranty obligation should include accruals for one remaining year of 20X6 sales, and two remaining years for the 20X7 sales. This would increase the warranty obligation, and reduce net assets, by \$1,534. Note that the cumulative effect of the change from 2% to 3% has not been adjusted to earnings as it would be non-recurring. 20X7 expense is adjusted to 3% of sales.

These amounts are approximate because part years have been disregarded.

#### 4. Goodwill write-up

Goodwill is an intangible asset and is not included in the purchase price formula, which is based on net tangible assets. Therefore, goodwill has been excluded in Exhibit 2 in the initial calculation of net tangible assets.

However, management has written up goodwill by \$50 each year as an assessment of the increase in goodwill over the year. This amount is included in earnings. This is not acceptable in the financial statements, as the increase is not verifiable and also is not related to a tangible asset. This amount has been removed from earnings in Exhibit 1.

#### 5. Valuation of capital assets

The pre-20X 7 balances of capital assets has been revalued to fair market value. This is necessary to reflect fair value in the net tangible assets used to value the company.

Land, with a book value of \$7,000, is likely worth \$10,500, increasing net assets in Exhibit 2 by \$3,500. The opening balance of capital assets in 20X7 (closing 20X6), excluding land, has be revalued by 20% and additional amortization on the higher fair value has been recorded. An average life of 6 years (range was four to eight years; six was used as the average). Additional verification may be done to ascertain whether this amortization period is reasonable. See Exhibit 7.

As a result of these adjustments, earnings declines by \$320 for additional amortization, and net assets increase by another \$1,600 for the net increase. See Exhibits 1 and 2.

#### 6. Revenue recognition

Darcy has engaged in a barter transaction during the year, and has given up inventory with a cost of \$23. This amount has been expensed but no revenue has been recorded. Since the company has received something of value (future services) it is tempting to record revenue at some reasonable amount.

However, this barter transaction is just one step in satisfying an order from a second customer, and value is not verified until that second order is complete. While it is not the

classic acquisition of inventory to facilitate a second sale, it is not the end of the earnings process in a string of transactions. Thus, no revenue should be recognized.

It is not appropriate, though, to record only the \$23 expense, because this can be recorded as the value of the machining work to be received in the future (book value). Both assets and earnings are adjusted to eliminate the \$23 expense recorded. See Exhibit 6.

Others might argue that for the purposes of valuation, recognition of full value might be appropriate, and record revenue of \$28, using the most conservative value in the range. The difference is not material to the calculations.

#### 7. Valuation of allowance for doubtful accounts

The allowance for doubtful accounts has historically been recorded at the level of 5% of accounts receivable. The existing allowance is not this high. Refer to Exhibit 5. The foreign-denominated account receivable, which is agreed to be collectible, is first removed from the accounts receivable total. Five percent of the remaining balance is \$569, or \$299 different than currently recorded. Both net assets and earnings are reduced accordingly.

Note that this adjustment affects 20X7 earnings only because the allowance looked adequate up to the beginning of 20X7, which indicates that only the current year expense must be increased.

In general, valuation of accounts receivable is sensitive, and the purchaser group should carefully evaluate the collectability of all accounts receivable.

#### 8. Restatement of foreign currency accounts receivable

The foreign account receivable is in US dollars, and it must be restated to the current exchange rate at the end of year, as the best predictor of its value at maturity. This increases net assets by \$220. See Exhibit 5.

The exchange gain was not included in earnings because it would not be recurring, and therefore should not be included in a purchase price calculation.

#### 9. Adjustments to earnings for non-recurring items now included

The gain on disposal of capital assets has been excluded from earnings used for valuation purposes. This gain is not likely a recurring operating item. Assets are being purchased at fair value and no gains or losses on sale should be considered.

In addition, research expenditures should be increased from \$120 to the prior level of \$350. Experts should be consulted to ensure that \$350 is indeed an appropriate level of research activity.

## 10. Calculation of bid ranges/Conclusions

One possible purchase bid was suggested as six times recurring operating earnings. This is calculated in Exhibit 1. Earnings is adjusted for all items identified and discussed, including additional warranty cost, bad debt expense, amortization on revalued assets and research. The result is that earnings is minimal, and produces a valuation of \$1.3 million. This is unreasonably low and cannot be seriously used for valuation.

However, the low result serves to highlight the poor operating performance of the company this year, caused especially by the decline in sales. It appears as though other expenses were minimized to make the profit situation look better. Even if the reported profit were used, the price suggested would only be approximately \$6 million ( $\$990 \times 6$ ). This is not in line with asset-based valuation measures (see Exhibit 2) as Mr. Lessard had hoped.

Perhaps the company can be restructured to significantly increase profit performance, but this is different than buying an existing profitable company, and one can argue that it is the new owner, not the old owner, who should benefit from the improvement.

Net tangible assets are evaluated in Exhibit 2 and perhaps highlights the strength of the company. Existing assets are adjusted for the revalued low-interest loan, additional warranty liability and allowance for doubtful accounts. The US receivable is revalued, as are land and other capital assets. The result is revised net assets of \$27,594, and a suggested purchase price in the range of \$33 million.

This is a significant price to pay for a company with no real profit history. However, the company has little long-term debt, and it may be possible to reduce net assets by collecting receivables, selling some capital assets, or putting long-term debt into place. This would reduce the net assets outstanding, and generate cash.

Further analysis of the profit potential is necessary before one could recommend purchasing Darcy at a price of \$33 million. The prospects for this company and the industry must be evaluated, and the financial statements are not helpful in this regard.

Exhibit 1  
Valuation based on earnings

Earnings, as reported		\$990
Adjustments for accounting measurements		
Loan interest (Exhibit 3)	(19)	
Amortization (Exhibit 3)	13	
Warranty (Exhibit 4)	(330)	
Bad debts (Exhibit 5)	(299)	
Goodwill gain reversal	(50)	
Expense capitalized (exhibit 6)	23	
Restatement for sustainable items		
Gain on disposal – not recurring	(80)	
Research (increase to \$350 versus \$120)	(230)	
Administration	??	
Revaluation of capital assets – amortization ( Exhibit 7)	(320)	
	(1,292)	
Tax @40%	517	(775)
Sustainable earnings		215
Multiple		6X
Suggested purchase price		<u>1,290</u>

Minimal earnings, therefore company cannot be valued on earnings.

Exhibit 2  
Valuation based on net tangible assets

Assets less liabilities less intangibles (\$41,645 - \$12,720 - \$2,600 - \$1,835 - \$400)	\$24,090
Adjustments for accounting measurements	
Low interest loan (Exhibit 3)	419
Capital assets (Exhibit 3)	(425)
Warranty (Exhibit 4)	(1,534)
Allowance for doubtful accounts (Exhibit 5)	(299)
Foreign denominated receivable (Exhibit 5)	220
Reduce expense; additional asset (Exhibit 6)	23
Revaluation of land (Exhibit 7)	3,500
Revaluation of other capital assets (Exhibit 7)	<u>1,600</u>
Revalued net assets	27,594
Multiple	<u>1.2 X</u>
Suggested purchase price	<u>\$ 33,113</u>

Exhibit 3  
Low-interest loan financing

Present value of loan at market interest rates:

$$\begin{aligned}
 \$2,600 \times (P/F, 6\%, 5) (.74726) &= \$1,943 \\
 \$52^* \times (P/A, 6\%, 5) (4.21236) &= \underline{219} \\
 &= \underline{\underline{\$2,162}}
 \end{aligned}$$

$$*\$2,600 \times 2\% = \$52$$

Earnings impact:

Adjusted interest expense: $\$2,162 \times 6\% \times 3/12$	\$32
Current interest expense: $\$2,600 \times 2\% \times 3/12$	<u>13</u>
Increased interest expense	<u>\$19</u>

Adjusted amortization expense: $\$2,162/8 \times 3/12$	\$68
Current amortization expense: $\$2,600/8 \times 3/12$	<u>81</u>
Decreased amortization expense	<u>\$13</u>

SFP impact:

Adjusted loan balance: \$2,162 + \$19	\$ 2,181
Current loan balance	<u>2,600</u>
Decreased loan balance	<u>\$ 419</u>
Adjusted capital assets: \$2,162 – \$68	\$2,094
Current capital assets \$2,600 - \$81	<u>2,519</u>
Decreased capital assets	<u>\$ 425</u>

Exhibit 4

Warranty expense/obligation

Year	Sales	Claims paid this year	Claims paid in year 2	Claims paid in year 3	Total paid	Percent of sales
20X4	\$31,020	\$260	\$320	\$460	\$1,040	3.35%
20X5	37,810	190	325	630	1,145	3.03%
20X6	44,960	230	300		incomplete	
20X7	32,670	190			incomplete	

Reasonable percentage: around 3%

Earnings current year = \$32,670 x 3%  
 = \$980 versus \$650 expensed = additional expense \$330

SFP, current year

Should be remaining claims for 20X6 and 20X7 sales (\$44,960 + \$32,670) x 3%	\$2,329
less: claims paid for 20X6 and 20X7 sales (\$230 + \$300 + \$190)	<u>(720)</u>
Balance	<u>\$1,609</u>
Additional liability (\$1,609 - \$75)	<u>(\$1,534)</u>

Note: overlap between years not considered.

Note: catch up adjustment to expense not recorded in 20X7 because it is cumulative, and not recurring

Exhibit 5

Bad debts/allowance

Accounts receivable, gross (\$18,720 + \$270)	\$18,990
Less: foreign receivable	(7,620)
	<u>\$11,370</u>
Estimated uncollectible – 5%	569
Current allowance	<u>270</u>
Additional expense and allowance	<u>\$299</u>
Foreign denominated receivable	\$7,620
Correct balance \$7,000 x 1.12	<u>7,840</u>
Adjustment	<u>\$220</u>

The entire catch up amount for bad debt expense has been recorded as an expense in 20X7 because the 20X6 allowance seems adequate (4.8% of receivables). The problem seems all related to 20X7. No exchange gain is included in earnings for the foreign receivable because the item seems non-recurring.

Exhibit 6

Revenue recognition

Valuation: Given up inventory @\$31 (list price) and received services @\$28-\$30.

Reliability of list prices is unclear.

Cost of inventory given up, \$23

Not the end of the earning process because acquired to facilitate another sale; No revenue recognition.

However, defer expense and create asset: \$23

Exhibit 7

Capital asset revaluation

Capital assets, net, pre-20X7	\$16,600
Less: land	(7,000)
	<u>\$9,600</u>
Increase in value – 20%	<u>\$1,920</u>
Additional amortization \$1,920 / 6 (average life)	<u>\$320</u>
Net increase to capital assets (\$1,920 - \$320)	<u>\$1,600</u>
Land balance	<u>\$7,000</u>
Increase in value – 50%	<u>\$3,500</u>

## Case 12-3 Homebake Inc.

### *Overview*

Homebake has sold 3,600,000 new breadmakers and recognized the revenue for all of these sales. The company has recorded a warranty obligation for normal returns and repairs and other expenses based on previous experience and the experience of other manufacturers; however, it has not yet recognized any warranty costs related to the faulty breadpan. The president has suggested that rather than accruing the full potential warranty costs, only costs incurred to date be recorded in the year-end statements. This recommendation will not provide appropriate valuation for the warranty situation that Homebake stands ready to correct.

Homebake is a growing company in the consumer small appliance industry. This is a highly competitive industry that produces high-quality, innovative products on a regular basis. Life cycles of some products may be short, while others are longer, but the market reaches saturation fairly quickly. Customer satisfaction is an important success factor.

It appears that Homebake has produced a quality product that is meeting consumer demands; however some of the products are flawed. The flaw can be fixed quickly and relatively inexpensively. Homebake has done everything it can to ensure customer satisfaction among the consumers who purchased a faulty product.

The company is in a growth phase and needs support from its banker. As a preparer of financial statements, management will want to report high earnings (profit maximization motive). The main financial statement users are bankers, shareholders, and potential shareholders. Users will want statements that reflect the performance of management (stewardship) and predict the company's ability to pay dividends and make loan payments (cash flow prediction).

The **ethics** of the accountant are an issue here, as the accountant is being pressured to consider an accounting policy that is good for the company but does not completely reflect the obligations of the company. It is important that the accountant not give in to such pressure.

### *Analysis*

#### a) Identification of alternatives

Revenue should be recognized when the significant risks and rewards of ownership, are transferred to the buyer, and all significant acts have been completed. In the case of consumer goods such as breadmakers, revenue is generally recognized at the point of sale, with provisions made based on past experience with sales returns and warranty obligations. Since Homebake is in the consumer small appliances industry,

it can be assumed that it has made reasonable provisions for returns of its new breadmaker, based on past experience with other products. Homebake has also worked very hard to reduce the potential returns on the breadmaker due to the faulty breadpan.

The company has made an estimate and accrual for normal warranty obligations related to the breadmaker. The issue is how to accrue for the unique situation of the faulty breadmaker.

There are two main alternatives:

#### *Cash basis*

Record the costs of providing and shipping a new breadpan when the item is sent to the consumer. At that point, it will be clear that an obligation has arisen, and the company will have settled the obligation. This alternative is advocated by the president.

#### *Estimated basis*

Record an estimate of the breadpan obligation and related expense. Estimates of the potential obligation seem to exist, based on the sales and percentage of faulty breadpans that were manufactured. The company could accrue an amount equal to the cost of replacing all faulty breadpans and set it up as an additional estimated warranty obligation.

### b) Analysis of Alternatives

#### *Cash basis*

The company requires an audit; thus, the recommended alternative must comply with GAAP. The revenue for the breadpans is being recorded in the 20x5 year end, and all estimable expenses related to that revenue should be matched to it. The breadpan expense may be estimated based on the number of faulty breadpans that were produced and the cost of replacing those pans. Since the cash basis would not result in an estimate and accrual of the potential costs of replacing the breadpans, it would not provide the correct matching of revenues and expenses, and therefore would not be acceptable under GAAP.

The president's argument that the cost of replacing the breadpans should be delayed and recognized at the same time as compensation from the supplier received is not valid, since no court action has yet been filed. There is no way to determine at this time what the outcome of a lawsuit might be. In any case, the company will have to incur the costs of replacing the breadpans.

*Estimated basis*

This alternative is acceptable under GAAP. The amount that should be recorded as an estimated warranty obligation and an expense of production (probably grouped into cost of goods sold) is:

Potential number of faulty pans	
$3,600,000 \div 3 = 1,200,000$	
Total cost of replacing all faulty pans:	
$1,200,000 \times \$20$ .....	\$24,000,000
Less: Pans already replaced	
$100,000 \times \$20$ .....	( 2,000,000)
Remaining estimated obligation: .....	<u>\$22,000,000</u>

This additional cost would be recognized in the sale period as revenue from the sale of breadmakers,  $3,600,000 \times \$125 = \$450,000,000$ , resulting in an additional warranty provision equal to 5% of sales. The warranty obligation represents the expected future cash outflow.

The company currently estimates and records other warranty costs; to depart from this treatment would be inconsistent with accounting policies already in place and result in incorrect liability valuation. If the estimated amount is not accrued, liabilities will be significantly understated, which will affect financial statements ratios.

*Recommendations*

The liability must be valued at its estimated amount, even though this recommendation is contrary to what the president wants. She wishes to show only the \$2,000,000 in warranty costs incurred so far as expense for the year, while it is more appropriate that an additional \$22,000,000 be recorded as an expense and a liability. This will ensure that the statements comply with GAAP and that the company receives a clean audit opinion. The additional allocation represents only 5% of sales revenue from this source ( $\$22,000,000 \div \$450,000,000$ ).

## Assignments

### Assignment 12-1

<i>Item</i>	<i>Accounting treatment</i>
a.	Record; specific plan that has been communicated in a substantive way
b.	Do not record; liability exists for a guarantee but the amount is estimated to be zero.
c.	Do not record; plans not yet concrete.
d.	Record; legislative requirement; amount has to be estimated and discounted for the time value of money
e.	Record; announced intent that can be relied on by outside parties; amount has to be estimated and discounted for the time value of money
f.	Do not record; executory contract until time passes
g.	Record when tower is built; remediation required under contract; amount has to be discounted for the time value of money
h.	Do not record; no firm offer or acceptance of out-of-court settlement
i.	Do not record; no obligation is established because the case has not been settled and the company will likely successfully defend itself
j.	Record; obligation for the expected value of \$4 million
k.	Record; some might claim that the expectation of successful defense means that the amount might simply be disclosed, but the author is pessimistic about the success of appeals on CRA rulings and thus suggests recording.
l.	Record; cash rebate is a required payout; liability for 65% x 500 x \$10

## Assignment 12-2 (WEB)

<i>Item</i>	<i>Accounting treatment</i>
a.	Do not record; executory contract until goods are delivered.
b.	Loss and liability recognized; record \$40,000 loss from decline in market value (onerous contract.)
c.	Liability for \$105,000 at year-end; originally recorded at \$110,000 Cdn. amount received and \$5,000 foreign exchange gain recognized to reflect change in exchange rate.
d.	Probable that there will be payout (70%) Record loss and liability at most likely outcome of \$500,000. Expected value; \$425,000(\$2 million x 5%) + (\$500,000 x 65%); appropriate to record higher value of \$500,000, reflecting payout.
e.	Record loss and liability at expected value; company stands ready to make payment in the event of default; amount is \$300,000 x 10%.
f.	Record loss and liability at expected cash outflow; obligation to make payment; amount is \$10,000 ( \$100 x 1,000 x 10%).
g.	Record as a liability; part of initial sales price allocated to liability; Amount is expected fair value of merchandise to be distributed.

## Assignment 12-3

### Requirement 1

Warranty expense in April, \$24,750 ( $\$550,000 \times 4.5\%$ )

### Requirement 2

Balance in the warranty liability account at the end of April is \$18,450  
( $\$16,400 + \$24,750 - \$8,700 - \$14,000$ )

## Assignment 12-4

<i>Item</i>	<i>Accounting treatment</i>
A.	Record at expected value because it is a financial instrument; company stands ready to make payment in the event of default; amount is expected payout (net of any security) x 10%. ( $\$200,000 \times 10\% = \$20,000$ )
B.	Not recorded; all that can be recorded is loss events of the year; no amount can be recorded to smooth out losses expected
C.	Record at expected value; a warranty expense and a warranty liability are recorded at the expected \$50,000 outflow. Subsequent payments reduce the liability.
D.	Do not record; it is not likely that the lawsuit will result in a cash outflow. (Under proposed standards, would record expected value, or $\$500,000 \times 20\% = \$100,000$ ).
E.	Record at expected value; company is required by legislation to remediate the site. Amount must be estimated, both timing and amount, even though uncertain. Amount to be discounted for interest rate over correct risk and term
F.	Record costs of recall; may be an additional \$780,000 expense and liability ( $\$520,000 \div 0.4 \times 0.6$ ) if costs are linear with progress. Recall is a constructive liability. Company likely liable for any settlements or lawsuits for product damages, but testing must be completed to ascertain if there is indeed a problem with existing product.

## Assignment 12-5

<i>Claim</i>	<i>Requirement 1 Current standards</i>	<i>Requirement 2 Proposed standards</i>
1.	Not likely; <50% probability of payout; no accrual	Obligating event assumed to have happened (per question)  Accrued at expected value \$50,000 ( $\$500,000 \times 10\%$ )
2.	Likely Accrual at best estimate, which is the most likely payout informed by expected value \$ 10,000,000 recorded	Obligating event assumed to have happened (per question)  Accrued at expected value \$7,000,000 ( $\$10,000,000 \times$ 70%)
3.	Likely Accrual at best estimate, which is the most likely outcome informed by expected value.  Combined odds: 40% settlement (60% x 30%) = 18% court dismissed (60% x 70%) = 42% court payout  Overall, most likely outcome (42%) is \$800,000 payout. Expected value is ( $\$500,000 \times 40\%$ ) + ( $\$800,000 \times 42\%$ ) = \$536,000.  More information about the success of the settlement offer should be obtained before the financial statements are issued, but an accrual of \$800,000 is supportable based on the information provided.	Obligating event assumed to have happened (per question)  Accrued at expected value \$536,000.

## Assignment 12-6

<i>Product</i>	<i>Requirement 1 Current standards</i>	<i>Requirement 2 Proposed standards</i>
1.	$75 \text{ claims} \times (1/3) \times \$1,000 \times 90\%$ $25 \text{ claims} \times \$5,000 \times 70\%$ $25 \text{ claims} \times 12,000 \times 60\%$ = <u>\$290,000</u>	<u>\$290,000</u>
2.	Nothing recorded for the eight claims to be dismissed Claim #9 is likely to be paid (60%) Accrued at most likely outcome, <u>\$50,000</u>	Nothing recorded for the eight claims to be dismissed  For claim #9, an obligating event has occurred (per question) and the amount recorded is expected value:  $\$50,000 \times 60\% =$ <u>\$30,000</u>
3.	Payout is not likely (60% chance of dismissal)  No accrual; most likely outcome	Obligating event assumed to have happened (per question)  Accrued at expected value \$160,000 $(\$1,000,000 \times 10\%) + (\$200,000 \times 30\%)$

## Assignment 12-7

### Requirement 1

Principal \$800,000 (P/F, 6%, 4) = $\$800,000 \times (0.79209)$ .....	\$633,672
Interest \$32,000 (P/A, 6%, 4) = $\$32,000 \times (3.46511)$ .....	<u>110,884</u>
	<u>\$744,556</u>

### Requirement 2

1 January 20x9		
Cash .....	744,556	
Discount on notes payable .....	55,444	
Notes payable.....		800,000
31 December 20x9		
Interest expense ( $\$744,556 \times .06$ ).....	44,673	
Discount on notes payable .....		12,673
Cash .....		32,000
31 December 20x10		
Interest expense ( $\$744,556 + \$12,673 = \$757,229$ ) $\times .06$ .....	45,434	
Discount on notes payable .....		13,434
Cash .....		32,000
31 December 20x11		
Interest expense ( $\$757,229 + \$13,434 = \$770,663$ ) $\times .06$ .....	46,240	
Discount on notes payable .....		14,240
Cash .....		32,000
31 December 20x12		
Interest expense ( $\$770,663 + \$14,240 = \$784,903$ ) $\times .06$ .....	47,097(1)	
Discount on notes payable (balance) .....		15,097
Cash .....		32,000
(1) rounded up by \$3		
Notes payable .....	800,000	
Cash .....		800,000

## Assignment 12-8

### Requirement 1

Inventory, merchandise, or purchases (\$5,000 + \$18,217) .....	23,217	
Discount on notes payable* .....	1,783	
Cash.....		5,000
Note payable .....		20,000*

### \*Computation

Principal: $\$20,000 \times (P/F, 8\%, 2) = \$20,000 \times (0.85734) =$	\$17,147
Interest: $(\$20,000 \times 3\%) \times (P/A, 8\%, 2) = \$600 \times (1.78326) =$	<u>1,070</u>
Present value of note.....	<u>\$18,217</u>
Discount: $(\$20,000 - \$18,217)$ .....	<u>\$1,783</u>

### Requirement 2

a) Amount of cash interest payable each 31 December ( $\$20,000 \times 3\%$ ).....	\$ 600
b) Total interest expense for the two-year period [ $(\$20,000 + \$1,200) - \$18,217$ ] [or, see below].....	2,983
c) Amount of interest expense reported for 20x5 ( $\$18,217 \times 8\%$ ) .....	1,457
d) Amount of liability reported on 31 December 20x5 (see debt amortization schedule).....	19,074

### Debt Amortization Schedule (not required)

<i>At Year End</i>	<i>Cash Payments</i>	<i>Interest Expense @ 8%</i>	<i>Increase in Balance</i>	<i>Carrying Value Balance</i>
Start				\$18,217
20x5	\$600	\$1,457	\$857	19,074
20x6	600	<u>1,526</u>	926	20,000
		<u>\$2,983</u>		

### Requirement 3

Entries for Sable Year End:

	20x5	20x6	Maturity
Interest expense.....	1,457	1,526	
Notes payable.....			20,000
Discount.....		857	
Cash.....	600	600	20,000

## Assignment 12-9

### Requirement 1

Principal: $\$5,000,000 \times (P/F, 3\%, 12) = \$5,000,000 \times 0.70138 =$	\$3,506,900
Interest: $(\$5,000,000 \times 2.5\%) \times (P/A, 3\%, 12) = \$125,000 \times 9.95400 =$	<u>1,244,250</u>
Issue proceeds at 30 April 20X0	<u>\$4,751,150</u>

### Requirement 2

Principal: $\$5,000,000 \times (P/F, 2\%, 10) = \$5,000,000 \times 0.82035 =$	\$4,101,750
Interest: $(\$5,000,000 \times 2.5\%) \times (P/A, 2\%, 10) = \$125,000 \times 8.98259 =$	<u>1,122,824</u>
Issue proceeds at 30 April 20X1	<u>\$5,224,574</u>

### Requirement 3

Principal: $\$5,000,000 \times (P/F, 4\%, 7) = \$5,000,000 \times 0.75992 =$	\$3,799,600
Interest: $(\$5,000,000 \times 2.5\%) \times (P/A, 4\%, 7) = \$125,000 \times 6.00205 =$	<u>750,256</u>
Issue proceeds at 30 October 20X2	<u>\$4,549,856</u>

### Requirement 4

At 30 October 20X3, there are five interest periods remaining:

#### a. Book value

Principal: $\$5,000,000 \times (P/F, 3\%, 5) = \$5,000,000 \times 0.86261$	\$4,313,050
Interest: $(\$5,000,000 \times 2.5\%) \times (P/A, 3\%, 5) = \$125,000 \times 4.57971 =$	<u>572,464</u>
	<u>\$4,885,514</u>

#### b. Fair value

Principal: $\$5,000,000 \times (P/F, 5\%, 5) = \$5,000,000 \times 0.78353$	\$3,917,650
Interest: $(\$5,000,000 \times 2.5\%) \times (P/A, 5\%, 5) = \$125,000 \times 4.32948 =$	<u>541,185</u>
	<u>\$4,458,835</u>

## Assignment 12-10

### Requirement 1

Principal	$\$5,000,000 \times (P/F\ 4\%,\ 40) (.20829) =$	$\$1,041,450$
Interest	$\$212,500 \times (PVA\ 4\%,\ 40) (19.79277) =$	$4,205,964$
		<u><math>\\$5,247,414</math></u>

### Requirement 2

Period	Cash interest paid	Interest expense	D or P amortization	Closing net bond liab.
Op. balance				5,247,414
1	212,500	209,897	2,603	5,244,811
2	212,500	209,792	2,708	5,242,103
3	212,500	209,684	2,816	5,239,287
4	212,500	209,571	2,929	5,236,358

### Requirement 3

#### 1 October 20x4

Cash .....	5,247,414
Premium on bonds payable .....	247,414
Bonds payable .....	5,000,000

#### 31 December 20x4

Interest expense ( $\$209,897 \times 3/6$ ) .....	104,949
Premium on bonds payable ( $\$2,603 \times 3/6$ ) .....	1,301
Interest payable ( $\$212,500 \times 3/6$ ) .....	106,250

#### 31 March 20x5

Interest expense ( $\$209,897 \times 3/6$ ) .....	104,948
Interest payable .....	106,250
Premium on bonds payable ( $\$2,603 \times 3/6$ ) .....	1,302
Cash .....	212,500

#### 30 September 20x5

Interest expense .....	209,792
Premium on bonds payable .....	2,708
Cash .....	212,500

#### 31 December 20x5

Interest expense ( $\$209,684 \times 3/6$ ) .....	104,842
Premium on bonds payable ( $\$2,816 \times 3/6$ ) .....	1,408
Interest payable ( $\$212,500 \times 3/6$ ) .....	106,250

Requirement 4

Period	Cash interest paid	Interest expense	Discount or premium amortization	Closing net bond liability
Opening balance				5,247,414
1	212,500	206,315	6,185 (1)	5,241,229
2	212,500	206,315	6,185	5,235,044
3	212,500	206,315	6,185	5,228,859
4	212,500	206,315	6,185	5,222,674

(1)  $\$247,414/40$

1 October 20x4

Cash .....	5,247,414	
Premium on bonds payable .....		247,414
Bonds payable .....		5,000,000

31 December 20x4

Interest expense .....	103,157	
Premium on bonds payable ( $\$6,185 \times 3/6$ ) .....	3,093	
Interest payable ( $\$212,500 \times 3/6$ ) .....		106,250

31 March 20x5

Interest expense .....	103,157	
Interest payable .....	106,250	
Premium on bonds payable ( $\$6,185 \times 3/6$ ) .....	3,093	
Cash .....		212,500

30 September 20x5

Interest expense .....	206,315	
Premium on bonds payable .....	6,185	
Cash .....		212,500

31 December 20x5

Interest expense .....	103,157	
Premium on bonds payable ( $\$6,185 \times 3/6$ ) .....	3,093	
Interest payable ( $\$212,500 \times 3/6$ ) .....		106,250

Requirement 5

The effective interest method is required under IFRS. It is preferable because it measures interest expense as a constant percentage of the outstanding liability – a better measure of cost of debt.

## Assignment 12-11 (WEB)

### Requirement 1

Bond proceeds:

$$\begin{aligned}
 P &= \$3,000,000 \times (P/F, 4\%, 20) + (\$3,000,000 \times 5\%) \times (P/A, 4\%, 20) \\
 &= (\$3,000,000 \times 0.45639) + (\$150,000 \times 13.59033) \\
 &= \$1,369,170 + \$2,038,550 \\
 &= \$3,407,720
 \end{aligned}$$

### Requirement 2

Effective-interest amortization:

#### 30 September 20x1:

Cash .....	3,407,720	
Bonds payable .....		3,000,000
Premium on bonds .....		407,720

#### 31 March 20x2:

Interest expense .....	136,309	
Premium on bonds .....	13,691	
Cash .....		150,000
[interest expense = 4% of \$3,407,720]		

#### 30 September 20x2:

Interest expense .....	135,761	
Premium on bonds .....	14,239	
Cash .....		150,000
[interest expense = 4% of (\$3,407,720 – \$13,691) = .04(\$3,394,029)]		

#### 31 March 20x3:

Interest expense .....	135,192	
Premium on bonds .....	14,808	
Cash .....		150,000
[interest expense = .04(\$3,394,029 – \$14,239) = .04(\$3,379,790)]		

#### 30 September 20x3:

Interest expense .....	134,599	
Premium on bonds .....	15,401	
Cash .....		150,000
[interest expense = .04(\$3,379,790 – \$14,808) = .04(\$3,364,982)]		

*Requirement 3*

Straight-line amortization:

30 September 20x1:

Cash .....	3,407,720	
Bonds payable .....		3,000,000
Premium on bonds .....		407,720

31 March 20x2:

Interest expense .....	129,614	
Premium on bonds ( $\$407,720 \div 20$ ).....	20,386	
Cash .....		150,000

30 September 20x2:

Interest expense .....	129,614	
Premium on bonds.....	20,386	
Cash .....		150,000

31 March 20x3:

Interest expense .....	129,614	
Premium on bonds.....	20,386	
Cash .....		150,000

30 September 20x3:

Interest expense .....	129,614	
Premium on bonds.....	20,386	
Cash .....		150,000

*Requirement 4*

The unamortized premium on 1 October 20x7, using the effective interest method, is the present value of the remaining cash flows at that date, less the principal amount of the bonds at 1 October 20x7, four years before maturity:

$$\begin{aligned}\text{Unamortized premium} &= [\$3,000,000(\text{P/F}, 4\%, 8) + \$150,000(\text{P/A}, 4\%, 8)] - \$3,000,000 \\ &= [\$3,000,000(.73069) + \$150,000(6.73274)] - \$3,000,000 \\ &= (\$2,192,070 + \$1,009,911) - \$3,000,000 \\ &= \$3,201,981 - \$3,000,000 \\ &= \$201,981\end{aligned}$$

*Requirement 5*

Premium amortization for next 6 months:

Using the answer to requirement 4:

- The present value of the bonds at 1 October 20x7 is \$3,201,981.
- Interest expense for the next six months is 4% of the PV, or \$128,080.
- Premium amortization is the difference between the expense of \$128,080 and the payment of \$150,000, or \$21,920.

## Assignment 12-12

### Requirement 1

Price of bond:

P	\$3,000,000 (P/F, 3%, 7) = \$3,000,000 × (.81309).....	\$2,439,270
I	\$75,000 (P/A, 3%, 7) = \$75,000 × (6.23028).....	467,271
		<u>\$2,906,541</u>

### Requirement 2

Date	Interest Payment	Interest Expense	Discount Amortization	Unamortized Discount	Net bond Liability
Opening				\$93,459	\$2,906,541
1	\$75,000	\$87,196	\$12,196	81,263	2,918,737
2	75,000	87,562	12,562	68,701	2,931,299
3	75,000	87,939	12,939	55,762	2,944,238
4	75,000	88,327	13,327	42,435	2,957,565
5	75,000	88,727	13,727	28,708	2,971,292
6	75,000	89,139	14,139	14,569	2,985,431
7	75,000	89,563	14,569*	0	3,000,000

\* Rounded by \$6

### Requirement 3

1 September 20x9

Cash .....	2,906,541	
Discount on bonds payable .....	93,459	
Bonds payable .....		3,000,000

31 December 20x9 (adjusting entry):

Interest expense (4/6).....	58,131	
Discount on bonds payable.....		8,131
Accrued interest payable .....		50,000

28 February 20X10

Accrued interest payable .....	50,000	
Interest expense (2/6).....	29,065	
Discount on bonds payable (2/6) .....		4,065
Cash .....		75,000

31 August 20x10		
Interest expense .....	87,562	
Discount on bonds payable.....		12,562
Cash .....		75,000
31 December 20x10 (adjusting entry):		
Interest expense (4/6).....	58,626	
Discount on bonds payable.....		8,626
Accrued interest payable .....		50,000

*Requirement 4*

20x9	
Interest expense	<u>\$58,131</u>
20x10	
Interest expense (\$29,065 + \$87,562 + \$58,626)	<u>\$175,253</u>

*Requirement 5*

20x9	
Bonds payable, 5%, effective rate 6%, due 28 February 20X13	\$3,000,000
Discount on bond payable (\$93,459 – \$8,131)	<u>85,328</u>
	<u>\$2,914,672</u>
20x10	
Bonds payable, 5%, effective rate 6%, due 28 February 20X13	\$3,000,000
Discount on bond payable (\$85,328 - \$4,065 - \$12,562 - \$8,626)	<u>60,065</u>
	<u>\$2,939,925</u>

## Assignment 12-13

### Requirement 1

1 April 20x1		
Cash .....	814,003	
Premium on bonds payable .....		14,003
Bonds payable .....		800,000
30 September 20x1		
Interest expense .....	20,350	
Premium on bonds payable .....	1,250	
Cash .....		21,600
31 December 20x1 (adjusting entry):		
Interest expense (3/6).....	10,159	
Premium on bonds payable .....	641	
Accrued interest payable .....		10,800
30 March 20x2		
Accrued interest payable .....	10,800	
Premium on bonds payable .....	640	
Interest expense .....	10,160	
Cash .....		21,600
30 September 20x2		
Interest expense .....	20,287	
Premium on bonds payable .....	1,313	
Cash .....		21,600
31 December 20x2 (adjusting entry):		
Interest expense (3/6).....	10,127	
Premium on bonds payable .....	673	
Accrued interest payable .....		10,800

### Requirement 2

Bond is issued for \$811,034 (\$811,472 – (2/6 of \$1,313)), plus 2 months' accrued interest:  
 $\$800,000 \times 5.4\% \times 2/12 = \$7,200$

1 June 20x2		
Cash (\$811,034 + \$7,200) .....	818,234	
Accrued interest payable (or interest expense).....		7,200
Premium on bonds payable .....		11,034
Bonds payable .....		800,000

30 September 20x2		
Interest expense (\$20,287 x 4/6) .....	13,525	
Accrued interest payable (consistent with prior entry) .....	7,200	
Premium on bonds payable (\$811,034 - \$810,159).....	875	
Cash .....		21,600
31 December 20x2 (adjusting entry):		
Interest expense (3/6).....	10,127	
Premium on bonds payable .....	673	
Accrued interest payable .....		10,800
30 March 20x3		
Accrued interest payable .....	10,800	
Premium on bonds payable .....	673	
Interest expense .....	10,127	
Cash .....		21,600
30 September 20x3		
Interest expense .....	20,220	
Premium on bonds payable .....	1,380	
Cash .....		21,600
31 December 20x3 (adjusting entry):		
Interest expense (3/6).....	10,093	
Premium on bonds payable .....	707	
Accrued interest payable .....		10,800

*Requirement 3*

Bonds payable, 5.4%, effective rate 5%, due 30 March 20X6	\$800,000
Premium on bond payable (\$7,433 – 707)	<u>6,726</u>
	<u>\$806,726</u>

## Assignment 12-14 (WEB)

### Requirement 1

Price of bond:

P	\$200,000 (P/F, 4%, 8) = \$200,000 × (.73069).....	\$146,138
I	\$7,600 (P/A, 4%, 8) = \$7,600 × (6.73274).....	<u>51,169</u>
		<u>\$197,307</u>

### Requirement 2

Date	Interest Payment	Interest Expense	Discount Amortization	Unamortized Discount	Net bond Liability
Opening				\$2,693	\$197,307
31 Aug. 20x4	\$7,600	\$7,892	\$292	2,401	197,599
28 Feb. 20x5	7,600	7,904	304	2,097	197,903
31 Aug. 20x5	7,600	7,916	316	1,781	198,219
28 Feb. 20x6	7,600	7,929	329	1,452	198,548
31 Aug. 20x6	7,600	7,942	342	1,110	198,890
28 Feb. 20x7	7,600	7,956	356	754	199,246
31 Aug. 20x7	7,600	7,970	370	384	199,616
28 Feb. 20x8	7,600	7,984	384	0	200,000

### Requirement 3

Proceeds of bond = \$197,599 + 1/6 of (\$197,599 - \$197,903) = \$197,650

Accrued interest = \$200,000 × 7.6% × 1/12 = \$1,267

### Requirement 4

30 September 20x4

Cash (\$197,650 + \$1,267).....	198,917	
Discount on bonds payable (\$200,000 - \$197,650).....	2,350	
Bonds payable .....		200,000
Accrued interest payable .....		1,267

31 December 20x4 (adjusting entry):

Interest expense .....	3,952	
Accrued interest payable (\$200,000 × 7.6% × 3/12).....		3,800
Discount on bond payable (\$304 × 3/6).....		152

Note: If interest expense was credited in the first entry, it will have to be adjusted now, to set up the proper payable (\$5,067) and expense (\$3,952) at year-end. Crediting interest expense in the initial entry is only a “wash” *after the first six month payment.*

28 February 20x5:

Interest payable .....	5,067	
Interest expense .....	2,634	
Discount on bonds payable ( $\$304 \times 2/6$ ) .....		101
Cash .....		7,600

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## Assignment 12-15

### Requirement 1

The effective interest rate is the internal rate of return which equates the future cash flows to the price of \$485,635. The future cash flows are interest of \$37,500 per year for eight years and the payment at maturity of \$500,000. The equation would be as follows:

$$\$485,635 = \$500,000 (P/F, i, 8) + \$37,500 (P/A, i, 8)$$

An interest rate of 8% satisfies the equation:

$$P = \$500,000 (.54027) + \$37,500 (5.74664) = \$485,635$$

### Requirement 2

Price of bond:

P	\$500,000 (P/F, 6%, 8) = \$500,000 (.62741) .....	\$313,705
I	\$37,500 (P/A, 6%, 8) = \$37,500 (6.20979) .....	<u>232,867</u>
		<u>\$546,572</u>

### Requirement 3

<u>Period</u>	<u>Balance, beginning</u>	<u>Effective interest @8%</u>	<u>Interest payment @7.5%</u>	<u>Discount Amortization</u>	<u>Balance, ending</u>
20x1	\$485,635	\$38,851	\$37,500	\$ 1,351	\$ 486,986
20x2	486,986	38,959	37,500	1,459	488,445
20x3	488,445	39,076	37,500	1,576	490,021
20x4	490,021	39,202	37,500	1,702	491,723
20x5	491,723	39,338	37,500	1,838	493,561
20x6	493,561	39,485	37,500	1,985	495,546
20x7	495,546	39,644	37,500	2,144	497,690
20x8	497,690	39,810(1)	37,500	2,310	500,000

(1) rounded down by 5

### Requirement 4

Proceeds of bond = \$485,635 + (2/12 of \$1,351) =	\$485,860
Accrued interest = \$500,000 x 7.5% x 2/12 =	<u>6,250</u>
	<u>\$492,110</u>

### Requirement 5

Interest expense (\$38,851 per table x 10/12 )	<u>\$32,376</u>
Net bonds payable (per table)	<u>\$486,986</u>

## Assignment 12-16

### Requirement 1

Price of bond:

P	\$30,000 (P/F, 4%, 6) = \$30,000 × (.79031).....	\$23,709
I	\$900 (P/A, 4%, 6) = \$900 × (5.24214).....	<u>4,718</u>
		<u>\$28,427</u>

### Requirement 2

**Bond Amortization Table**  
(Stated rate 3%; effective rate 4%; semi-annual)

<i>Date</i>	<i>Cash Payment</i>	<i>Effective Interest</i>	<i>Discount Amortization</i>	<i>Unamortized Discount</i>	<i>Net Bond Liability</i>
Opening				1,573	28,427
31 May 20x6	900	1,137	237	1,336	28,664
30 Nov. 20x6	900	1,147	247	1,089	28,911
31 May 20x7	900	1,156	256	833	29,167
30 Nov. 20x7	900	1,167	267	566	29,434
31 May 20x8	900	1,177	277	289	29,711
30 Nov. 20x8	900	1,189*	289	0	30,000

\*Rounded

### Requirement 3

Proceeds of bond = \$28,427 + 3/6 of (\$28,427 - \$28,664) = \$28,546

Accrued interest = \$30,000 × 6% × 3/12 = \$450

### Requirement 4

Discount amortization to 31 May 20x6 is \$118 (\$237 × 3/6) or (\$28,546 - \$28,664)

## Assignment 12-17

### Requirement 1

The company did not get a 2% loan. The upfront fee must be included when establishing the real borrowing cost, and its effect is to increase the interest rate to 5%.

Effective interest rate = Solve for x% in,

$$\begin{aligned} \$750,000 &= \$61,273 + \$15,000 (P/A, x \%, 3) + \$750,000 (P/F, x \%, 3) \\ x &= 5\% \end{aligned}$$

Proof:

$$\begin{aligned} \$750,000 &= \$61,273 + \$15,000 (P/A, 5\%, 3) + \$750,000 (P/F, 5\%, 3) \\ \$750,000 &= \$61,273 + \$15,000 (2.72325) + \$750,000 (.86384) \\ \$750,000 &= \$750,000 \end{aligned}$$

### Requirement 2

The upfront fee is not expensed at the inception of the loan. It is deferred, and amortized over the life of the loan using the effective interest method.

### Requirement 3

Beginning of Year 1

Cash (\$750,000 - \$61,273) .....	688,727	
Discount/ financing cost .....	61,273	
Note payable .....		750,000

End of Year	1	2	3
Interest expense	34,436 <sup>1</sup>	35,408 <sup>2</sup>	36,429 <sup>3</sup>
Cash	15,000	15,000	15,000
Discount/ financing cost	19,436	20,408	21,429

(1)  $\$688,727 \times .05$

(2)  $(\$688,727 + \$19,436 = \$708,163) \times .05$

(3)  $(\$708,163 + \$20,408 = \$728,571) \times .05$

End of Year 4

Note payable .....	750,000
Cash.....	750,000

## Assignment 12-18

### Requirement 1

Effective interest rate = Solve for x in,

$$\begin{aligned} \$500,000 &= \$53,460 + \$10,000 (P/A, x \%, 3) + \$500,000 (P/F, x \%, 3) \\ x &= 6\% \end{aligned}$$

Proof:

$$\begin{aligned} \$500,000 &= \$53,460 + \$10,000 (P/A, 6\%, 3) + \$500,000 (P/F, 6\%, 3) \\ \$500,000 &= \$53,460 + \$10,000 (2.67301) + \$500,000 (.83962) \\ \$500,000 &= \$500,000 \end{aligned}$$

Net amount advanced on borrowing:  $\$500,000 - \$53,460 = \$446,540$

### Requirement 2

Interest expense: (table not required)

Period	Cash interest paid	Int. expense (6%)	Amortization	Closing net liability
Op. balance				446,540
1	10,000	26,792	16,792	463,332
2	10,000	27,800	17,800	481,132
3	10,000	28,868	18,868	500,000

## Assignment 12-19

### Requirement 1

Any eligible borrowing cost that is directly attributable to the acquisition, construction or production of the inventory and the storage facility forms part of the cost of that asset and is capitalized. This includes interest on the specific loan for the storage facility and general borrowing costs for the storage facility and inventory.

### Requirement 2

Inventory .....	29,948	
Interest expense .....		29,948

Cost of borrowing:  $\$520,000 / (1,500,000 + \$8,000,000) = 5.47\%$

Capitalization ends when good are available for sale.

Interest has already been expensed, so this entry re-allocates the amount to be capitalized.

Payment	Calculation	Capitalizable
Early March payment	$\$730,000 \times 9/12 \times 5.47\%$ (1 March – 30 November)	<u>\$ 29,948</u>

Storage facility .....	21,788	
Interest expense .....		15,955
Interest payable ( $\$1,000,000 \times 7\% \times 1/12$ ) .....		5,833

Interest on the specific loan is capitalizable after the loan is issued, presumably concurrently with the \$1,200,000 early December payment. Interest is not yet recorded. Other interest is capitalizable out of general borrowing cost. This interest has already been expensed, so this entry re-allocates the amount to be capitalized. Capitalization continues until the building is completed in January of next year.

Payment	Calculation	Capitalizable
Late July	$\$500,000 \times 5/12 \times 5.47\%$	\$ 11,396
Late October	$\$400,000 \times 2/12 \times 5.47\%$	3,647
Early December	$(\$1,200,000 - \$1,000,000$ through specific loan) $\times 1/12$ $\times 5.47\%$	<u>912</u>
		<u>\$15,955</u>

## Assignment 12-20

### Requirement 1

Cash (\$90,000 - \$15,165).....	74,835	
Discount/ financing cost .....	15,165	
Note payable .....		90,000

The company receives \$74,835 in cash.

Effective interest rate for specific loan = Solve for x in,

$$\$90,000 = \$15,165 + \$1,800 (P/A, x \%, 5) + \$90,000 (P/F, x \%, 5)$$

$$x = 6\%$$

Proof:

$$\$90,000 = \$15,165 + \$1,800 (P/A, 6\%, 5) + \$90,000 (P/F, 6\%, 5)$$

$$\$90,000 = \$15,165 + \$1,800 (4.21236) + \$90,000 (.74726)$$

$$\$90,000 = \$90,000$$

### Requirement 2

<i>Payment</i>	<i>Calculation</i>	<i>Capitalizable</i>
Mid-January	Invoice price	\$180,000
July	Customization	\$ 15,000
August	Training	10,000
Specific loan	$(\$90,000 - \$15,165) \times 6\% \times 7.5 / 12$ months (mid-January – early September)(1)	2,806
General borrowing	$(\$180,000 - \$74,835 \text{ paid through specific loan}) \times 5.67\%$ (2) $\times 7.5 / 12$ months $\$15,000 \times 5.67\%$ (2) $\times 1 / 12$ $\$10,000 \times 5.67\%$ (2) $\times 0 / 12$ July and August payments are assumed to take place at the end of the month.	3,798
	Note: may not exceed fair value of a customized bulldozer	<u>\$211,604</u>

(1) Capitalization period ends in early September

(2) Average borrowing cost on general borrowing  
= 5.67%  $(\$160,000 + \$95,000) / (\$3,000,000 + \$1,500,000)$

This excludes the mortgage loan for the manufacturing facility because it is not general borrowing. No cost for equity financing is capitalizable.

## Assignment 12-21

### Requirement 1

Principal: $\$600,000 \times (P/F, 3\%, 20) = \$600,000 \times (.55368) =$	\$332,208
Interest payments: $\$15,000 \times (P/A, 3\%, 20) = \$15,000 \times (14.87747) =$	<u>223,162</u>
Bond price	<u>\$555,370</u>

1 July 20x2 - Issuance of bonds:

Cash .....	555,370	
Discount on bonds payable .....	44,630	
Bonds payable, 5% .....		600,000

### Requirement 2

1 July 20x5 - Purchased \$200,000 bonds at effective rate of 8%:

Bonds payable, 5% .....	200,000	
Gain, retirement of debt .....		20,392
Discount on bonds payable (1) .....		11,296
Cash (2) .....		168,312

Computations:

(1) Book value is present value with 14 periods remaining:

$200,000 \times (P/F, 3\%, 14) = \$200,000 \times (.66112)$ .....	\$132,224
$(\$200,000 \times 2.5\%) \times (P/A, 3\%, 14) = \$5,000 \times (11.29607)$ .....	<u>56,480</u>
Book value (PV) .....	<u>\$188,704</u>
Discount ( $\$200,00 - \$188,704$ ) .....	<u>\$11,296</u>

(2) Purchase price:

$\$200,000 \times (P/F, 4\%, 14) = \$200,000 \times (.57748)$ .....	\$115,496
$(\$200,000 \times 2.5\%) \times (P/A, 4\%, 14) = \$5,000 \times (10.56312)$ .....	<u>52,816</u>
Purchase price (PV) .....	<u>\$168,312</u>

The gain is reported as an unusual item in earnings.

### Requirement 3

Neither the issuer nor investor had an economic gain or loss because the cash paid was equal to the current present value of the 5% bonds. The change in market value, which did cause a gain for the issuer and a loss for the investor, occurred when interest rates changed.

**Assignment 12-22 (WEB)**

**Case A**

31 December 20x16 - Retirement of the debt:

Bonds payable, 12%.....	200,000	
Premium on bonds payable (1) .....	21,340	
Gain, retirement of debt .....		15,340
Cash ( $\$200,000 \times 1.03$ ).....		206,000
(1) $\$21,340 = \$200,000 - [ \$200,000 \times (P/F, 10\%, 8) + (\$24,000) \times (P/A, 10\%, 8)]$		

**Case B**

*Requirement 1*

Principal: $\$200,000 \times (P/F, 11\%, 10) = \$200,000 \times (.35218) =$		\$70,436
Interest payments: $\$20,000 \times (P/A, 11\%, 10)$		
$= \$20,000 \times (5.88923) =$		<u>117,785</u>
Bond price		<u>\$188,221</u>
1 January 20x2		
Cash .....	188,221	
Discount on bonds payable .....	11,779	
Bonds payable, 10%, 10-year.....		200,000

*Requirement 2*

Book value at the end of 20X4:

Principal: $\$200,000 \times (P/F, 11\%, 7) = \$200,000 \times (.48166) =$		\$96,332
Interest payments: $\$20,000 \times (P/A, 11\%, 7) = \$20,000 \times (4.71220) =$		<u>94,244</u>
Bond price		<u>\$190,576</u>

1 July 20x5

To update interest expense and discount amortization for 20x5:

Interest expense ( $\$190,576 \times 11\% \times 6/12$ ).....	10,482	
Discount on bonds payable .....		482
Interest payable ( $\$200,000 \times 10\% \times 6/12$ ).....		10,000

To record the retirement:

Bonds payable .....	200,000	
Interest payable .....	10,000	
Loss, retirement of debt .....	10,942	
Discount on bonds payable* .....		8,942
Cash ( $\$202,000 + \$10,000$ ).....		212,000

\*Unamortized balance:  
 $(\$200,000 - \$190,576 = \$9,424 - \$482)$

## Assignment 12-23

### Case A

To update interest expense and amortization:

Interest expense.....	22,533	
Premium on bonds payable .....	800	
Cash ( $\$10,000,000 \times 20\% \times 7\% \times 2/12$ ).....		23,333

To record the retirement:

Bonds payable ( $\$10,000,000 \times 20\%$ ).....	2,000,000	
Premium on bonds payable ( $\$84,000 \times 20\%$ ) less \$800.....	16,000	
Loss, retirement of debt .....	184,000	
Cash.....		2,200,000

### Case B

To record interest payment:

Interest expense ( $\$360,000 + \$12,000$ ).....	372,000	
Interest payable ( $\$18,000,000 \times 4\% \times 3/6$ ) (from 31 Dec. 20X7) ..	360,000	
Discount on bonds payable .....		12,000
Cash ( $\$18,000,000 \times 4\%$ ).....		720,000

To record retirement:

Bonds payable.....	7,200,000	
Gain, retirement of debt .....		122,000
Discount on bonds payable ( $\$132,000 - \$12,000$ ) $\times 40\%$ .....		48,000
Cash.....		7,030,000

### Case C

To update interest expense and amortization:

Interest expense.....	81,709	
Discount on bonds payable .....		1,328
Upfront costs .....		381
Interest payable ( $\$10,000,000 \times 80\% \times 6\% \times 2/12$ ).....		80,000

To record the retirement:

Bonds payable.....	8,000,000	
Interest payable ( $(\$10,000,000 \times 80\% \times 6\% \times 8/12)$ ).....	320,000	
Loss, retirement of debt .....	46,451	
Discount on bonds payable ( $\$124,500 \times 80\%$ ) less \$1,328....		98,272
Deferred issue costs ( $\$35,700 \times 80\%$ ) less \$381 .....		28,179
Cash ( $\$8,000,000 \times .99$ ) + \$320,000.....		8,240,000

## Assignment 12-24

### Requirement 1

Interest expense ( $271,425 \times .4 \times 2/6$ ).....	36,190	
Discount on bonds payable ( $31,425 \times 2/6 \times .4$ ).....		4,190
Cash ( $\$240,000 \times .4 \times 2/6$ ).....		32,000

### Requirement 2

Bonds payable.....	3,200,000	
Loss on bond retirement.....	61,810	
Discount on bonds payable ( $\$245,000 \times .4$ ) – \$4,190.....		93,810
Cash ( $\$3,200,000 \times .99$ ).....		3,168,000

### Requirement 3

Interest expense ( $\$271,425 \times .6$ ).....	162,855	
Discount on bonds payable ( $\$31,425 \times .6$ ).....		18,855
Cash ( $\$240,000 \times .6$ ).....		144,000

## Assignment 12-25

### Requirement 1

Issuance proceeds: $\$38,301,565 + 1/6 \times \$32,063$ (see table) =	<u>\$38,306,909</u>
Accrued interest = $\$40,000,000 \times 7.5\% \times 1/12 =$	<u>\$250,000</u>
Principal: $\$40,000,000 \times (P/F, 4\%, 29) = \$40,000,000 \times (.32065) =$	\$12,826,000
Interest payments: $\$1,500,000 \times (P/A, 4\%, 29)$ = $\$1,500,000 \times (16.98371) =$	<u>25,475,565</u>
Bond price (rounded)	<u>\$38,301,565</u>

Interest expense: (table not required)

Period	Cash interest paid	Int. expense (4%)	Amortization	Closing net liability
Op. balance				38,301,565*
1	1,500,000	1,532,063	32,063	38,333,628**
2	1,500,000	1,533,345	33,345	38,366,973
3	1,500,000	1,534,679	34,679	38,401,652

\* n = 29

\*\* n = 28

### Requirement 2

Cash ( $\$38,306,909 + \$250,000$ ).....	38,556,909
Discount on bonds payable .....	1,693,091
Bonds payable .....	40,000,000
Interest payable (or expense).....	250,000

*Requirement 3*

Interest expense .....	1,276,719	
Interest payable .....	250,000	
Discount on bonds payable ( $\$32,063 \times 5/6$ )		
or ( $\$38,308,909 - \$38,333,628$ ) .....		26,719
Cash ( $\$40,000,000 \times 7.5\% \times 6/12$ ) .....		1,500,000

*Requirement 4*

Interest expense ( $\$1,533,345 \times 2/6$ ) x 10%.....	51,112	
Discount on bonds payable ( $\$33,345 \times 2/6$ ) x 10% .....		1,112
Interest payable ( $\$4,000,000 \times 7.5\% \times 2/12$ ).....		50,000
Bonds payable .....	4,000,000	
Interest payable .....	50,000	
Loss on bond retirement.....	125,525	
Cash ( $\$4,000,000 \times 99\%$ ) + \$50,000 .....		4,010,000
Discount on bonds payable (1).....		165,525

(1)  $(\$38,333,628 - \$40,000,000) \times .10 = \$166,637$ ;  $\$166,637 - \$1,112 = \$165,525$

## Assignment 12-26

### Requirement 1

1 July 20x1		
Cash <sup>1</sup> .....	688,417	
Discount on bonds payable .....	111,583	
Bonds payable .....		800,000
<sup>1</sup> \$800,000 (P/F, 6%, 19) (.33051) + \$38,000 (P/A, 6%, 19) (11.15812)		
31 December 20x1		
Interest expense* .....	41,305	
Discount on bonds payable .....		3,305
Cash .....		38,000
*\$688,417 × .06		

### Requirement 2

Book value at 30 June 20x6 of the \$240,000 of bonds defeased 1 August 20x6 (9 semiannual period remaining) =  $\$240,000 \times (\text{P/F}, 6\%, 9) + (\$240,000 \times 4.75\%) \times (\text{P/A}, 6\%, 9) = \$219,595$ .

Unamortized discount remaining =  $\$20,405 = \$240,000 - \$219,595$

1 August 20x6		
Interest expense ( $6\% \times \$219,595 \times 1/6$ ) .....	2,196	
Discount on bonds payable .....		296
Interest payable ( $4.75\% \times \$240,000 \times 1/6$ ) .....		1,900
Interest payable .....	1,900	
Bonds payable .....	240,000	
Loss on bond defeasance .....	27,309	
Discount on bonds payable ( $\$20,405 - \$296$ ) .....		20,109
Cash [ $(1.03 \times \$240,000) + \$1,900$ ] .....		249,100

### Requirement 3

The critical element of a defeasance that permits de-recognition of the liability is that the creditor agrees to the arrangement and legal release is given to the borrower. In an in-substance defeasance, the transaction is the same except there is no legal release by the creditor. Debt subject to a defeasance arrangement is derecognized, but debt subject to an in-substance defeasance is left on the books.

*Requirement 4*

Interest rates have declined since Computer Medic issued its bonds. They were issued at a discount and now sell at a premium. The relative attractiveness has increased reflecting a drop in overall interest rates.

*Requirement 5*

The loss is caused by changing interest rates and valuation of the bond liability at a value based on its issuance price. The loss does not equal the change in Computer Medic's economic status. Many would argue that Computer Medic has experienced no change in economic status because a liability has been defeased at market value. To the extent that a company's financial position improves with an equal reduction of debt and assets, Computer Medic may be a stronger company. In addition, the defeasance may be a smart move. Computer Medic may be able to replace the 10% debt with lower interest rate debt, improving its long-run liquidity position.

*Requirement 6*

Book value at 30 June 20x6 of the \$560,000 of bonds remaining =  $[\$560,000 \times (P/F, 6\%, 9)] + [\$560,000 \times 4.75\% \times (P/A, 6\%, 9)] = \$512,389$

31 December 20x6

Interest expense (6% × \$512,389).....	30,743	
Discount on bonds payable .....		4,143
Cash (4.75% × \$560,000) .....		26,600

## Assignment 12-27

### Requirement 1

Cash (Given).....	1,606,617	
Premium on bonds payable .....		106,617
Bonds payable.....		1,500,000

### Requirement 2

Interest expense ( $\$1,606,617 \times 10\% \times 5/12$ ) .....	66,942	
Premium on bonds payable .....	8,058	
Interest payable ( $\$1,500,000 \times 12\% \times 5/12$ ) .....		75,000

### Requirement 3

Interest expense ( $\$1,606,617 \times 10\% \times 1/12$ ) .....	13,388	
Interest payable .....	75,000	
Premium on bonds payable .....	1,612	
Cash ( $\$1,500,000 \times 12\% \times 6/12$ ).....		90,000

### Requirement 4

Bonds payable ( $\$1,500,000 \times 40\%$ ).....	600,000	
Premium on bonds payable ( $\$40,849 \times 40\%$ ) (1).....	16,340	
Gain on bond retirement .....		28,340
Cash ( $\$1,500,000 \times 40\% \times .98$ ).....		588,000

(1) Present value of the bond on this date =  $(n=3, i=5\%) = \$1,540,849$

Premium = \$40,849

*Requirement 5*

Financing section,		
Retirement of bonds payable,		(\$588,000)
Operating activities section, indirect method,		
Less: gain on bond retirement		(\$28,340)

If the direct method were used, the gain on bond retirement would not be listed.

*Requirement 6*

Long-term liabilities:

Bond payable, 12%, due 31 January 20x7	\$900,000	
Plus: premium on bonds payable	<u>24,509*</u>	
		<u>\$924,509</u>

\*  $\$40,849 \times 60\%$

*Requirement 7*

At 31 July 20X5, the bonds have three more interest periods remaining. The market value will be the remaining payments discounted at 14% per annum, or 7% per interest period:

Principal: $\$900,000 \times (P/F, 7\%, 3) = \$900,000 \times 0.81630 =$	\$734,670
Interest: $(\$900,000 \times 6\%) \times (P/A, 7\%, 3) = \$54,000 \times 2.62432 =$	<u>141,713</u>
	<u>\$876,383</u>

The company should include this market value in the disclosure notes.

*Requirement 8*

Cash required for defeasance:

Principal: $\$900,000 \times (P/F, 4\%, 3) = \$900,000 \times (0.88900) =$	\$800,100
Interest payments: $\$54,000 \times (P/A, 4\%, 3) = \$54,000 \times (2.77509) =$	<u>149,855</u>
Bond price	<u>\$949,955</u>

## Assignment 12-28

### Requirement 1

Cash .....	13,520,000
Long-term note payable (US\$13,000,000 × 1.04) .....	13,520,000

### Requirement 2

#### Statement of financial position

Long-term note payable (US\$13,000,000 × \$1.01)	\$13,130,000
Accrued interest payable (US\$13,000,000 × 5% × 8/12 × \$1.01)	\$ 437,667

#### Statement of comprehensive income

Interest expense (US\$13,000,000 × 5% × 8/12 × \$1.03)	\$ 446,333 dr.
Foreign exchange gain (\$13,520,000 – \$13,130,000) + (\$437,667 - \$446,333)	\$ 398,666 cr.

Note that interest expense is measured at the average rate for the year, and the interest liability is measured at the closing exchange rate. There is an exchange gain for the difference.

## Assignment 12-29 WEB

### Requirement 1

Date		Loan Balance	(Gain)/Loss
1 May 20x2	@ \$1.09	\$8,720,000	
31 December 20x2	@ \$1.12	<u>8,960,000</u>	\$240,000
31 December 20x3	@ \$1.10	<u>8,800,000</u>	(160,000)

#### Earnings, year ended 31 December 20x2

Exchange loss	
re: principal.....	240,000

#### 31 December 20x2 SFP

Loan payable.....	\$8,960,000
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#### Earnings, year ended 31 December 20x3

Exchange (gain)	
re: principal.....	(160,000)

#### 31 December 20x3 SFP

Loan payable.....	\$8,800,000
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### Requirement 2

#### Interest Expense

20x2	$\$8,000,000 \times .0725 \times 8/12 \times \$1.11$	<u>\$429,200</u>
20x3	$\$8,000,000 \times .0725 \times \$1.09$	<u>\$632,200</u>

#### Exchange G/L (Interest)

##### 20x2

Interest payable/paid at 31 December 20x2	
$(\$8,000,000 \times .0725 \times 8/12 \times \$1.12)$	\$433,067
Interest expense (above)	<u>429,200</u>
Exchange loss	<u>\$ 3,867</u>

There is an exchange gain or loss on interest expense because it is accrued at the average rate and paid at a specific date when the exchange rate is different than the average.

## Assignment 12-30

### Requirement 1

Merit Ltd  
Partial Statement of Cash Flow  
Year ended 31 December 20x9

Cash used for financing activities:

Bond retirement (7% bond) (\$3,000,000 x 101%)..	(3,030,000)
Bond retirement (6.5% bond) (\$6,000,000 x 97.5%)	(5,850,000)

### Requirement 2

Gain or loss:	7% Bond	6.5% Bond
Price paid .....	\$3,030,000	\$5,850,000
Book value.....	3,000,000	6,000,000
Discount *.....	<u>(21,000)</u>	<u>(35,000)</u>
Total .....	2,979,000	5,965,000
(Gain)/loss .....	<u>\$51,000</u>	<u>\$(115,000)</u>

\*  $\$152,500 - \$14,700 - \$116,800 = \$21,000$ ;  $\$61,500 - \$5,200 - \$21,300 = \$35,000$

Issuance of the 7.25% bond for land is a non-cash transaction and is excluded from the SCF. Supplementary disclosure is required.

# Chapter 13: Shareholders' Equity

Suggested Time

Case 13-1	Topsail Ltd.	
13-2	Birch Corporation	
13-3	Lorenzoni Winery	
Assignment 13-1	Components of shareholders' equity.....	20
13-2	Effect of transactions (W*).....	10
13-3	Effect of transactions .....	20
13-4	Share issuance.....	20
13-5	Entries and reporting.....	30
13-6	Share retirement—entries and account balances.....	30
13-7	Share retirement—analysis .....	10
13-8	Equity, interpretation .....	20
13-9	Retired shares—entries and reporting.....	40
13-10	Treasury stock—entries and reporting.....	15
13-11	Treasury stock—entries and account balances (W*) .....	30
13-12	Compute dividends, preferred shares - four cases	30
13-13	Compute dividends, comprehensive - four cases .....	40
13-14	Compute dividends, retire shares.....	30
13-15	Stock dividend and stock split .....	25
13-16	Stock dividend recorded—dates cross two periods.....	25
13-17	Stock split - adjustments.....	20
13-18	Stock dividend with fractional shares.....	25
13-19	Stock dividends and splits; fractional share rights .....	30
13-20	Equity; retirement and stock dividend .....	30
13-21	Retained earnings calculation and equity.....	30
13-22	Statement of changes in equity (*W).....	20
13-23	Statement of changes in equity .....	20
13-24	Statement of changes in equity .....	30
13-25	Entries and shareholders' equity.....	45
13-26	Shareholders' equity (W*).....	45
13-27	Compute dividends, record share transactions...	40
13-28	Effect of transactions .....	30
13-29	Transactions, statement of cash flow .....	30
13-30	Statement of cash flow.....	30

\*W The solution to this exercise/problem is on the text Web site and in the Study Guide. The solution is marked **WEB**.

## Questions

1. The categories of shareholders' equity are contributed capital from shareholders, retained earnings and reserves (unrealized amounts). Contributed capital represents the capital invested by shareholders. Other elements of contributed capital are created by share transactions with shareholders. Retained earnings represents cumulative earnings less dividends; reserves include unrealized gains/losses on FVTOCI financial assets, unrealized amounts from hedges, and foreign exchange translation gains/losses on certain foreign operations.
2. If shares were issued for a capital asset, the transaction would be valued by considering an appropriate fair value for the capital assets. The fair values can be difficult to assess, and it is a responsibility of the Board of Directors to determine the reliability of appraisals and/or reference prices.
3. When no-par shares are issued, all the consideration received is credited to the share capital account. When par value shares are issued, par value is credited to the share capital account, and consideration received in excess of par is credited to a contributed capital account.
4. Share issue costs can be netted with proceeds on sale of shares, and thus effectively debited to the share account (offset method), or debited directly to retained earnings.
5. If a company has 100,000 shares issued and 10,000 shares in the treasury, there are 90,000 shares outstanding. Cash dividends of \$2 per share would be \$180,000, because treasury shares may not receive cash dividends.
6. Shares may be bought on the open market by a company, even if not callable. Corporations must exercise caution in these transactions because of insider trading rules.
7. EPS will increase when shares are retired if the earnings on the funds used to retire shares (idle cash) are proportionately less than the EPS. That is, if denominator (shares outstanding) is reduced, and the numerator is reduced (income) but not by as much, proportionately, EPS increases.
8. Reacquisition and retirement of shares for less than the original issuance price causes assets to decline (the cash paid), leaves liabilities unchanged, and increases other contributed capital (surplus) by the difference between the price paid and the original issuance price.
9. If the price paid is lower than average issue price, then proceeds are allocated:
  - a) To share capital, for the average issue price to date, and the excess,

b) To contributed capital from share retirement.

If shares are reacquired at a price higher than average issue price to date, then the proceeds are allocated as follows:

- a) To share capital, for the average issue price to date,
- b) To contributed capital created by prior retirements of this share class, if any, and then,
- c) To retained earnings.

10. No, the individual issue price of shares is not relevant on retirement. The average issue price to date is used in the retirement entry. The individual issue price affects the average, of course.

11. Treasury stock is reported as a contra account in shareholders' equity. A company cannot report its own shares as an asset.

12. Effects of treasury stock on total:

	<i>Purchase</i>	<i>Sale</i>
a) Assets	Decrease	Increase
b) Liabilities	None	None
c) Shareholders' equity	Decrease	Increase

13. Non-cumulative preferred shares provide that dividends not declared for any year, or series of years, are lost permanently as far as the preferred shareholder is concerned. Cumulative preferred shares provide that dividends passed (dividends in arrears) for any year, or series of years, accumulate and must be paid to the preferred shareholders when dividends are declared, before the common shareholders are entitled to receive a dividend. Dividends in arrears are not a liability.

Preferred shares are non-participating when the dividends for each year are limited to a specified preference rate per share. Partially participating means that the preferred shareholders participate in dividends above the stated rate, but only up to an additional amount specified.

Preferred shares are fully participating when the preferred shareholders are entitled to dividends (above the stated rate) on a pro rata basis with the holders of common shares. In this case, the preference relates to a prior claim to dividends up to the basic preference (with common entitled to a matching amount), after which both classes share ratably.

<i>Dividend</i>	<i>Assets</i>	<i>Liabilities</i>	<i>Total Shareholders' Equity</i>
Cash	Decrease	No effect	Decrease
Stock	No effect	No effect	No effect

15. Fractional share rights are certificates that can be accumulated and redeemed, in proper multiples, for the common shares of a company. They are issued when stock dividend declarations result in shareholders that are entitled to less than one full share.
16. A normal cash dividend reduces retained earnings, while a liquidating dividend reduces share capital, or other contributed capital. Both dividends reduce shareholders' equity; they are different only in the choice of account to be debited.
17. Shareholders receive a certificate of some sort when a scrip dividend is declared. If the dividend is a liability dividend, the scrip is a promissory note and the dividend will be paid in the future, often with interest. The company records a payable and the shareholder records a receivable.
18. A stock dividend involves the issuance of additional shares to the shareholders in proportion to the shares that they held prior to the dividend. It can reduce retained earnings and increase contributed capital by the same amounts, but does not change total shareholders' equity. Alternatively, it can be recorded as a memo and have no impact on individual accounts within shareholders' equity.

A stock split involves replacing the old shares with a larger number of new shares with a proportionately lower value per share. A stock split does not change the components or total of shareholders' equity.

Neither a stock dividend nor a stock split requires the disbursement of corporate assets; both reduce earnings per share. They are similar in substance. They may be accounted for in the same way (memo) or differently (memo for split, recognition for dividend); an obvious anomaly.

19. A company does not record a gain on the donation of an asset by a shareholder. The asset is recognized on the books at fair value, and contributed capital is credited.
20. In general, the amounts shown as reserves are unrealized gains and losses. Management has no classification discretion. That is, the only sources of reserves are:
  - Gains and losses on FVTOCI financial instruments;
  - Gains and losses on certain hedging instruments, and
  - Translation gains and losses on certain foreign operations.

## Cases

### Case 13-1 Topsail Ltd.

#### *Overview*

Topsail is a private company that must comply with GAAP because a major new lender, a credit union, requires an audit. The company could adopt IFRS, but is more likely to adopt the less complicated ASPE. Within GAAP, there are many choices allowed. The debt-to-equity covenant imposed by the credit union creates a bias to minimize debt and maximize equity (e.g., by maximizing earnings) to improve the ratio. Where acceptable choices exist, accounting policies that help improve this ratio should be adopted. All choices must be **ethically** appropriate, though, not just picked because of their effect on the ratio.

#### *Issues*

1. Revenue recognition
2. Asset impairment
3. Preferred shares
4. Investment in Abel
5. Non-monetary related party transactions
6. Advertising
7. Lawsuit

#### *Analysis and conclusions*

##### *1. Revenue Recognition*

Topsail must decide whether to recognize revenue on the Skyline cabinets, a \$250,000 transaction, in the current fiscal year or next year. This transaction is material given the \$300,000 level of net income.

On the one hand, the Skyline order may meet the criteria as a “bill-and-hold” transaction, and therefore could be recorded in the current year. The cabinets are complete and ready for shipment. A contract is in place, so Skyline has made a fixed commitment to purchase the goods. Skyline has requested that delivery be delayed, for a sound reason - the delay in the opening of the new store. It is likely that the goods have been segregated from general inventory sale given the fact that they are custom made. There appears to be a fixed delivery date of January 15<sup>th</sup>.

On the other hand, revenue is normally recognized on delivery, which is in the next fiscal year. The delivery date might be uncertain given that the store opening has been delayed. Uncertainties are further exacerbated by the potential inability for Skyline to arrange inventory financing. This suggests some question as to the collectability of the

balance of the contract due to Topsail. Further, there could be significant performance obligations in terms of installation of the cabinets.

Given the lack of certainty surrounding delivery and collection, revenue must be deferred until delivery and acceptance of the cabinets by Skyline. If the \$100,000 deposit was recognized as revenue it will need to be reversed and set up as deferred revenue. This goes against Topsail's reporting objective of wishing to maximize income and therefore equity, thus worsening the debt-to-equity ratio.

## *2. Impaired assets*

Topsail intends to replace a major piece of machinery when a new machine/technology comes out on the market next year.

The old machinery on Topsail's books might be impaired, since Topsail intends to cease using the asset in the next several months and its expected proceeds are \$20,000 lower than net book value. On the other hand, the value in use (future cash flows from revenue streams) of the machine may not be much lower than before. If new technology is not tested and produced on time, the machine may well be usable for some time to come.

Overall, as long as the plans to replace the machine are likely to proceed, the evidence seems stronger that an impairment write-down should be recorded. This amount should be recognized as a loss in the current period because the carrying amount of the machine is not recoverable and exceeds its fair value. The asset must be recorded at the expected net realizable value of \$10,000. Recognition of this loss will decrease earnings and equity, worsening the debt-to-equity covenant.

## *3. Preferred Shares*

Preferred shares are legally equity and are usually reported in shareholders' equity. However, if shares have the characteristics of a liability, they must be reported as debt. The Topsail preferred shares must be repaid, with dividends in arrears, if any, in two years' time. Any contract that involves a required cash outflow for the company meets the definition of a liability. The liability is long-term this year, and likely a current liability next year. Related dividends are classified as an expense and reduce earnings. This would worsen the debt-to-equity ratio in two ways: first, it would increase debt, and second, it would decrease earnings by the dividend amount.

Dave plans to avoid the preferred dividend until maturity, and Doug has agreed to this. The dividend on the preferred shares must be declared and recorded each year, though, because no dividend can be declared on the common shares unless this is done. Dave wishes to declare common dividends as advised by his tax planner. If the dividends are accrued but not paid on Topsail's books, liabilities will again increase. Doug believes that he can defer tax on his dividend income by delaying payment; he should seek professional tax advice before implementing this plan.

The accounting outcome outlined above seems highly undesirable. Topsail would prefer to improve, not worsen, their debt-to-equity ratio. Dave should consider ways to deal with this situation prior to the end of the fiscal year. First, he could consider re-negotiating the terms of the shares. Even though the legal contract exists, Doug, as an employee, may be willing to accept some legal wording that will avoid the need to classify the shares as a liability. Second, Dave could contact his lender and request that the debt-to-equity ratio be redefined to exclude the preferred shares or simply increased. Note that the preferred shares DO have to be repaid, so if the credit union is trying to capture the extent of cash obligations, there is no particular reason to exclude the preferred shares.

Under ASPE, certain preferred shares issued as part of tax planning arrangements, that are mandatorily redeemable, can continue to be classified in equity. It does not seem that these shares would qualify for the exemption.

### *3. Investment in Abel Electricity Ltd.*

Topsail has significant influence in Abel with a 25% ownership. Significant influence seems likely, given the 25% ownership and regular intercompany transactions. However, the operation of the Abel Board of Directors should be investigated before this conclusion is finalized. If there is significant influence, Topsail could report this investment using the equity method or the cost method under ASPE.

Under the cost method, the investment would initially be recorded at its cost of \$120,000. Dividends declared would be recorded as revenue, and there were none in this year.

Under the equity method, the investment would initially be recorded at cost. Topsail would record a proportionate amount of Abel's income in earnings with an equal amount increasing the Abel investment account. Since Abel has positive income this year, this equity pick-up would improve income and equity by \$50,000 (subject to certain adjustments, to be investigated). This would improve the ratio subject to the loan covenant. Any dividends declared by Abel would decrease the investment account and be recorded as a receivable when declared. Since there were no dividends this year, the overall impact on the investment account is an increase of (approximately) \$50,000.

Use of the equity method for this (significant influence) investment is recommended because it presently appears to have a more positive impact on the debt-to-equity ratio. (Note, though, that in a future year, if Abel were to incur losses, the pick up of the loss would worsen the debt-to-equity ratio.)

### *4. Non-monetary related party transaction*

Topsail has received electrical services from Abel as part of a swap of services for a used van. This is a non-monetary transaction and must be recorded at fair value. The value of the goods and services received is ascertainable from a knowledgeable person in the industry. This estimate should be compared to the value of the used van, obtainable through current black book values. IFRS requires that fair value be set according to the services received, electrical contracting work done. ASPE looks at both values and uses the one that is more verifiable. As ASPE evolves, this may be a grey area of valuation, but if the swap was equitable, the two values should be very close and valuation at fair value should be easily achieved.

The fair value should be used to value the transaction, with the van and its related accumulated amortization removed from assets and an increase to work-in-progress established for electrical work fair value. Any difference would be reflected as a gain or loss on disposition of the van. If there is a gain, then income and the debt-to-equity ratio will be improved. If a loss, then the ratio will worsen because of the impact on earnings.

This transaction is a related party transaction and must be disclosed in the notes to Topsail's financial statements. Other dealings with Abel are also related party transactions, and also qualify for disclosure. The valuation of the services rendered should be investigated; if the price was less than fair value, as Topsail implies, then disclosure would be needed.

#### *5. Advertising*

The advertising and marketing campaign has been recorded as an intangible asset. Expenditures relating to advertising and promotional activities must be expensed when incurred; there is no severable asset that would justify treatment as an intangible asset. The impact of this is again to reduce income and worsen the debt-to-equity ratio.

#### *6. Lawsuit*

The lawsuit put forth by Bob Swaine appears to have no merit as supported by the opinion of Topsail's lawyer that the case will be thrown out of court. Accordingly, neither accrual nor disclosure of the lawsuit is warranted. Topsail may include disclosure if they wish.

#### *Summary*

The overall direction of these policy choices is to worsen the debt-to-equity ratio in most cases. Topsail should prepare draft financial statements to assess whether they will be in violation of the covenant or not. If there are difficulties with the covenant, then the preferred share agreement should be re-assessed, and the credit union terms should be explored to see if re-negotiation is possible. In addition, it may be possible to arrange payment from Skyline, and firm up delivery dates, which will allow revenue recognition in the current fiscal year. These activities should take place before the end of the fiscal year.

## Case 13-2 Birch Corporation

### *Overview*

Birch is a small owner-managed company that manufactures and distributes wood mouldings. The minority shareholder (Fran) is buying out the majority shareholder (Reg). This report includes commentary on Birch's accounting policies as well as on the proposed purchase price formula. GAAP (ASPE?) is the basis for any accounting policy decision the company must adopt as it is specifically mentioned in the proposed purchase agreement between Reg and Fran. However, GAAP must be defined, and then it must be the basis of recommendations made. Use of GAAP in the formula does not imply that internal accounting, as prepared by Fran to date, has been prepared on that basis.

As Fran has been maintaining the accounting records for Birch and is now interested in acquiring Reg's 70% interest in the company using a formula that is based on accounting numbers, it is obvious that she may have had **ethical conflicts**. Her bias may be to understate earnings and cash flow. Given this bias, it is quite feasible that any information generated internally by Fran should be suspect. It is important to do this review from Reg's perspective, but looking at the issues from a fairness perspective as well.

### *Issues*

1. GAAP definition
2. RubberWood® revenue
3. Investment accounting; Feine Corporation
4. Share repurchase
5. Valuation of capital assets
6. Calculation of purchase price
7. Commentary on purchase price agreement

### *Analysis*

#### *GAAP definition*

GAAP has been referred to as a standard of reference in the agreement, but this could refer to IFRS, or to ASPE. The two are similar in many regards, but there are some differences that could impact the purchase price. ASPE is the most logical choice for this company, given its small size, but the shareholders should be consulted, and clarification sought, before finalizing any recommendations.

#### *RubberWood® revenue*

RubberWood®'s market has been reasonably proven as it has been offered for sale, by Birch, during the last three years. From the financial statements, it is obvious that Fran has been deferring recognition of the revenue from this product on the basis that the

company has offered a lifetime guarantee on the product. The history of returns for the company has been very minor in relation to total sales for the product. Further, Reg has indicated that Birch's customers for this product have been satisfied.

Complete deferral of the revenue is overly conservative. In addition, it is not reasonable to be both deferring revenue completely and recognizing a warranty expense related to the same product. The warranty expense is not being recognized along side the revenue earned.

RubberWood® revenue should be recognized as the goods are delivered. Given that the majority of customers appear to be happy with the product, and have not returned it to Birch, recognition is appropriate. Therefore, earnings should be adjusted for  $\$605,000 - \$390,000 = \$215,000$  in the current period and as a positive adjustment to current year earnings (see Appendix I).

However, it is appropriate to provide for some warranty based on the history of warranty being utilized by customers. The current warranty accrual is assumed to be adequate, but this should be reviewed.

#### *Investment accounting; Feine Corporation*

Feine Corporation is an investment held by Birch; Birch holds a 40% interest in the company and also has 40% (4 of 10) representation on Feine's Board of Directors. As a result, it seems likely that Birch has a significant interest in the company and could report it using the equity method of accounting.

Fran has used the equity method of accounting for this associate; however, under equity accounting, only 40% (i.e., Birch's share) of Feine's loss should be reflected in its financial statements. Fran has included 100% of Feine's loss which has understated Birch's earnings, and net assets, by the other 60% of Feine's loss for the current year.

Alternatively, using ASPE, the cost method could be used. The cost method reports only dividends declared as revenue. Utilizing this method, which would be GAAP, none of Feine's loss would be reflected in the current year income of the company. Fran would likely not support this choice since Feine has had losses for at least the last two years. Leaving out the loss would increase the purchase price, and this would not be in Fran's best interests. It also seems logical to suggest that the investment is not as strong as it once was since the investee has reporting losses; a reduction in purchase price as reflected by the losses might be reasonable.

Use of the equity method has been assumed to be appropriate policy; this must be reviewed with both shareholders before finalizing any calculations. Earnings has been adjusted by  $\$53,000$  ( $\$88,000 \times .6$ ; rounded) to reverse investment losses from  $\$88,000$  to  $\$35,000$  (see Appendix 1)

### *Share repurchase*

Fran recorded a loss of \$240 as a result of the share repurchase transaction. The common share account has declined by \$10, and cash paid was \$250, so this appears to be the residual amount from the share retirement transaction. When shares are retired, common shares are reduced by the average capital paid in to date, and any residual gain or loss is a capital transaction, which is recorded in the equity accounts, not in earnings. In the current situation, where cash paid was higher than the reduction to common shares, the \$240 should be a reduction to retained earnings, not a loss. Fran may have been motivated by a desire to reduce earnings. It is important to review the calculation of the \$10 decrease to common shares, as well, to make sure it is accurate.

Earnings has been increased by \$240 (see Appendix 1) to eliminate the loss.

### *Valuation of capital assets*

Capital assets contributed when Birch was formed were valued at a nominal amount on the books because of valuation uncertainty. The financial arrangements appear to have been fair, in that the value of the capital assets were appropriately considered in allocating the common share ownership at the time.

These assets should have been recorded at fair value, with amortization recorded on them in subsequent years, so that the representational faithfulness of the financial statements is preserved. Amortization on these assets is an appropriate component of earnings, since the assets are used to generate revenue. The use of these assets in profitable operation for the last six or seven years clearly indicates that they have/had a fair value. Because of the measurement uncertainty, the lowest value presented has been used. Recording the assets does not work in Reg's favor when using earnings as a valuation metric, but it does not affect cash flow.

Earnings has been reduced by amortization of \$33 ( $\$500,000/15$ ).

### *Calculation of purchase price*

As can be seen from Appendix I (revised earnings) and Appendix II (projected cash flows), the following potential purchase prices would be considered:

Valuation based on earnings	\$2,610,000
Valuation based on cash flow	\$3,095,000

We therefore recommend that Reg choose the purchase price formula that is based on 1.2 times the sum of the present value of cash flows, subject to a review of the data and assumptions used.

*Comments on purchase price agreement*

GAAP-based financial statements are not meant to reflect the value of a business, and Reg was ill-advised to enter into an agreement with a price based on GAAP. GAAP was not defined in the sale agreement, and could be taken to mean one of several sets of reporting standards. GAAP is not a set of hard-and-fast rules, but rather is judgementally oriented, with much leeway in policy choice and estimation. Fran has been placed in an unenviable conflict of interest, preparing a set of financial statements with such an incentive to reduce earnings. Fortunately for both parties, the cash flow data is less subject to manipulation, and has produced the higher valuation. However, this is still an area that Fran controls, and excess spending on maintenance, for instance, would reduce both income and cash flow, and affect the transaction price.

A more appropriate approach would have been to have the business professionally assessed by a Chartered Business Valuator, and work based on that recommendation. Valuations can be based on fair values of net asset, normalized earnings, and cash flow, looking for convergence around a reasonable range.

**APPENDIX I**

*BIRCH CORPORATION - REVISED EARNINGS*  
*(in thousands of dollars)*

	<u>20X6</u>
Earnings as reported	\$ 47
Recognition of RubberWood ® revenue	+215
Feine equity income adjustment	+ 53
Reversal of share retirement loss	+240
Additional amortization	-33
Revised earnings	<u>\$522</u>
<b>Purchase price, 5.0 multiplier:</b>	<b><u>\$2,610</u></b>

## APPENDIX II

### *BIRCH CORPORATION - PROJECTED CASH FLOWS (in thousands of dollars)*

	<u>20X7</u>	<u>20X8</u>	<u>20X9</u>
Gross profit - regular sales (1)	\$1,174	\$1,233	\$1,307
RubberWood ® sales (2)	237	260	286
	1,411	1,493	1,593
Operating expenses (3)	438	460	478
	973	1,033	1,115
PV @ 10%	0.91	0.83	0.75
	<u>\$885</u>	<u>\$857</u>	<u>\$836</u>
Total of PV of 3 years:	<u>\$2,578</u>		
<b>Purchase price, 1.2 multiplier:</b>	<u><b>\$3,094</b></u>		

Note 1:

Increased from \$1,118; +5%;+5%;+6%

Note 2:

Increased from \$215; +10%, +10%,+10%

Note 3:

Operating expenses = \$716 plus tax of \$27 less amortization of \$326 = \$417; +5%; +5%; +4%.

Taxes are included in operating expenses; more sophisticated analysis will project earnings and predict the tax on this number. However, the tax rate is not obvious from the numbers reported in earnings, and various permanent and temporary differences likely exist.

Since receivables, payables and inventories will be stable over the projection period, cash flow is equal to the revenue and expense streams.

### Case 13-3 Lorenzoni Winery

#### Overview

The interested parties and their needs are as follows:

<i>Investor</i>	<i>Investor's needs</i>
Giovanni	Maintain voting control; doesn't need income; wishes to encourage more interest from his immediate family
Wine master	Wants regular income for his retirement
Pension fund	Wants high return on investment with opportunity to participate further in the future
Bank	Initial provider of capital, wants repayment.
Future investors	Participation in earnings

#### Analysis

The most important participants in this venture are Giovanni, the wine master, and the pension fund. The bank is also an important participant, but they are debt holders and they are expected to be paid off in the near future by investment from the pension fund.

Giovanni is not concerned about income in the foreseeable future, but he is very concerned about retaining voting control of the company as it grows and has more participants. His desire to construct and operate a restaurant will call for more capital. Eventually, he may want to have an initial public offering. At the same time, he wants to encourage his family to become involved in the venture in the future, which implies that he may wish to give some of his shares to his family at some point.

#### Recommendations

Giovanni should establish a multi-share corporate structure. He should consider the following classes of shares:

- a. Class A preferred shares, cumulative and non-participating convertible into Class B common shares. These can be issued to the pension fund to give the fund a reasonable return on their investment, in preference to other shareholders. If the venture is successful, the fund may wish to convert to common shares.
- b. Class B preferred shares, cumulative and participating, subordinated to the Class A preferred shares. These can be issued to the wine master. They will provide a steady return to the extent that the venture is successful. The participation feature will permit the wine master to enjoy added dividends in the future if common dividends are issued.

c. Class A multiple voting common shares. These shares would be issued solely to Giovanni, some of which he may wish to give to his family. They will permit him to retain voting control without the necessity to accept dividends.

d. Class B restricted voting shares. These will have a vote, but also less (in total) than those held by Giovanni. Dividends can be paid on the Class B common without paying dividends on the Class A common, thereby satisfying the needs of both groups. These shares can be issued to other investors, and may also be used as compensation for the wine master (and perhaps the sous chef).

Answer

## Assignments

### Assignment 13-1

*GRL Trading Limited*  
*Shareholders' Equity*  
*As at 31 December 20x1*

Contributed Capital:

Share capital:

Preferred shares, no-par value, \$2, unlimited shares authorized, cumulative and fully participating, 27,000 shares issued and outstanding .....	\$168,000
Common shares, no-par, unlimited shares authorized, 45,000 shares issued, 44,900 shares outstanding .....	1,350,000
Common shares subscribed, 100 shares.....	9,000
Fractional common share rights .....	9,200
Other contributed capital: common share retirement.....	<u>18,900</u>
Total contributed capital .....	1,555,100
Retained earnings.....	653,000
Reserve for unrealized exchange gain on translation of foreign subsidiary Total .....	<u>150,500</u> 2,358,600
Less: Treasury shares, 100 common shares .....	( 8,600)
Total Shareholders' Equity .....	\$2,350,000
Less: Subscriptions receivable* .....	<u>(3,000)</u>
Net Shareholders' Equity .....	<u>\$2,347,000</u>

\* Some classify this as an asset, but classification as a contra equity account avoids overstatement of equity from “promises” to inject capital.

## Terminology:

*Preferred shares* Shares with one or more preferences over common shares; usually preferences as to dividends or claims to assets on dissolution. Dollar value indicates value invested by shareholders.

*Common shares* Shares with residual interest in the net assets of the company. Dollar value indicates value invested by shareholders.

*Common shares subscribed* Prospective shareholders have agreed to buy shares at the indicated amount but have not fully paid the consideration, so the shares cannot be issued.

*Fractional common share rights outstanding* Likely as a result of a stock dividend, common shareholders hold rights which, if tendered in the correct multiples (e.g., five rights for one share), must be exchanged for common shares.

*Other contributed capital: common share retirement* The corporation has repurchased common shares and retired them. This amount is the excess of original average issue price over the retirement price paid.

*Retained earnings* Cumulative earnings less dividends, and other specific charges.

*Unrealized exchange gain on translation of foreign subsidiary* When translating the financial statements of a foreign subsidiary into Canadian dollars for consolidation, this is the gain that resulted. The annual change is excluded from earnings, but is included in comprehensive income. The cumulative amount is reported in equity as a reserve.

*Treasury shares* Common shares have been bought by the company, its own common shares, which may be resold or reissued in the future.

*Subscriptions receivable, common shares* Outstanding balance of money to be paid for shares purchased under a subscription agreement.

**Assignment 13-2 (WEB)**

Item	Assets	Liabilities	Share Capital (Preferred and Common)	Retained Earnings	Reserve for foreign exchange gains and losses	Total Shareholders' Equity (combined effect of prior three columns)
a. (given)	NE	I	NE	D	NE	D
b.	NE	NE	I	D	NE	NE
c.	D	D	NE	NE	NE	NE
d.	I	NE	I	NE	NE	I
e.	NE	NE	NE	NE	NE	NE
f.	I*	NE	NE	I	I	I
g.	D	NE	D	D	NE	D

\* net assets are assumed to increase by the net effect of comprehensive income; if this is marked "NE" there is an assumption that the effect has already been recorded and this is acceptable.

### Assignment 13-3

a) Income summary.....	210	
Retained earnings.....		210
b) Cash .....	320	
Preferred shares .....		120
Common shares .....		200
May be presented as two entries		
c) Retained earnings (share issue costs) .....	11	
Cash .....		11
d) Preferred shares .....	54	
Retained earnings.....	18	
Cash .....		72
e) Common shares .....	26	
Contributed capital, common share retirement.....		4
Cash .....		22
f) Retained earnings (or, stock dividend) .....	98	
Common shares .....		98
g) Retained earnings (or, cash dividend) .....	42	
Cash .....		42

### Assignment 13-4

a) Authorization:

Memo: unlimited common shares authorized.

b) Cash .....	3,840,000	
Common shares, no-par, 120,000 shares .....		3,840,000
Common shares, no-par .....	71,100	
Cash .....		71,100
c) Cash .....	1,071,000	
Stock subscription receivable .....	459,000	
Common shares subscribed, 45,000 shares .....		1,530,000
d) Trademark .....	15,000	
Common shares, no-par, 500 shares .....		15,000
The fair value of the service received is used to value the transaction.		
e) Building .....	310,000	
Mortgage payable .....		80,000
Common shares, no-par, 10,000 shares .....		230,000
f) Cash .....	459,000	
Stock subscription receivable .....		459,000
Common shares subscribed, 45,000 shares .....	1,530,000	
Common shares, no-par, 45,000 shares .....		1,530,000

## Assignment 13-5

### Requirement 1

(not required) Memo: Common shares, no-par, unlimited shares authorized.

(not required) Memo: Preferred shares, no-par, \$0.30, unlimited shares authorized.

Entries:

a) Cash .....	960,000	
Common shares, no-par (80,000 shares × \$12) .....		960,000
b) Retained earnings (share issue costs) .....	18,200	
Cash .....		18,200
c) Cash (4,000 shares × \$25) .....	100,000	
Preferred shares, no-par (4,000 shares) .....		100,000
d) Common shares (8,000 × \$12) .....	96,000	
Retained earnings.....	4,000	
Cash (8,000 × \$12.50) .....		100,000
e) Preferred dividends declared (or retained earnings) (4,000 × \$0.30) .....	1,200	
Common dividends declared (or retained earnings) .....	8,800	
Cash .....		10,000
f) Capital assets; manufacturing facility.....	80,000	
Common shares, no-par (\$80,000 × 83%).....		66,400
Preferred shares, no-par (\$80,000 × 17%).....		13,600
Common shares: 5,000 x \$12 =	60,000	83%
Preferred shares: 500 x \$25 =	12,500	17%
	<u>72,500</u>	<u>100%</u>

It is also acceptable to value common shares at \$12.50 based on the buy-back, increasing the percentage allocated to them; \$12 is used here because there is more share volume.

### Requirement 2

#### *DONROY CORPORATION* *Shareholders' Equity*

Contributed Capital:

Share capital:

Preferred shares, no-par, \$0.30, unlimited shares authorized, 4,500 shares issued and outstanding.....	\$ 113,600
Common shares, no-par, unlimited shares authorized, 77,000 shares issued and outstanding.....	<u>930,400</u>
Total contributed capital.....	1,044,000
Retained earnings (\$216,400 – \$18,200– \$4,000 – \$10,000) .....	<u>184,200</u>
Total shareholders' equity .....	<u>\$1,228,200</u>

**Assignment 13-6**

a)	5 Jan.	Common shares ( $\$235,000/20,000$ ) = $\$11.75 \times 2,000$ .	23,500	
		Contributed capital on common share retirement ...		3,500
		Cash.....		20,000
	6 Jan.	Preferred shares ( $\$72,000 / 3,000$ ) = $\$24 \times 1,500$ .....	36,000	
		Retained earnings.....	1,500	
		Cash ( $\$25 \times 1,500$ ).....		37,500
	20 Feb.	Common shares ( $\$11.75 \times 2,000$ ).....	23,500	
		Contributed capital on common share retirement .....	2,500	
		Cash ( $2,000 \times \$13$ ).....		26,000
	20 Feb.	Preferred shares ( $\$24 \times 300$ ).....	7,200	
		Contributed capital on preferred share retirement ..		4,200
		Cash ( $300 \times \$10$ ).....		3,000
	15 Mar.	Common shares ( $\$11.75 \times 3,000$ ).....	35,250	
		Contributed capital on common share retirement ( $\$3,500 - \$2,500$ ).....	1,000	
		Retained earnings.....	5,750	
		Cash ( $3,000 \times \$14$ ).....		42,000
b)		Preferred shares ( $\$72 - \$36 - \$7.2$ ).....		\$ 28,800
		Common shares ( $\$235 - \$23.5 - \$23.5 - \$35.25$ ).....		152,750
		Contributed capital on share retirement		
		Common ( $\$3.5 - \$2.5 - \$1$ ).....		0
		Preferred.....		4,200
		Retained earnings ( $\$75 - \$1.5 - \$5.75$ ).....		67,750

**Assignment 13-7**

	<i>Common</i>	<i>Preferred</i>
1. Change in share account .....	\$100,000	\$50,000
Shares retired .....	2,000	1,000
Original issue price, average.....	\$50	\$50
2. Change in share account .....	\$100,000	\$50,000
Change in retained earnings <sup>1</sup> .....	15,000	
Change in contributed capital .....		(27,000)
Cash paid for shares.....	<u>\$115,000</u>	<u>\$23,000</u>

<sup>1</sup>  $\$120,000 + \$50,000 - \$20,000 = \$150,000$  vs  $\$135,000$ ;  
 \$15,000 charge to RE, due to share transaction

Journal entries:

Common shares .....	100,000	
Retained earnings.....	15,000	
Cash.....		115,000
Preferred shares .....	50,000	
Contributed capital.....		27,000
Cash.....		23,000

## Assignment 13-8

### Requirement 1

The preferred shares are non-voting, while the common shares likely have voting privileges. The preferred shares likely have first claim to dividends as declared and first claim to the proceeds from net assets on dissolution.

### Requirement 2

The term cumulative means that if the cumulative preferred dividends are not declared in a given year, the missed dividend must be declared in a later year before the common shares are entitled to any dividend.

### Requirement 3

The preferred shares would receive \$197,000 ( $49,250 \times \$4$ ), and the common shareholders would receive \$153,000 ( $\$350,000 - \$197,000$ ).

### Requirement 4

The average issuance price for all common shares at 31 December 20x4 was \$17.27 ( $\$16,774,900 \div 971,550$ ). During the year, shares were issued for \$36 ( $\$151,200 \div 4,200$ ) and under option contracts for \$19.50 ( $\$39,000 \div 2,000$ ).

### Requirement 5

To record common shares retired:

Common shares ( $\$17.27 \times 2,500$ ).....	43,175	
Retained earnings.....	14,325	
Cash ( $\$23 \times 2,500$ ).....		57,500

This entry assumes that there is no contributed capital from prior retirement transactions.

### Requirement 6

To record purchase of 8,200 shares of treasury stock:

Treasury stock ( $\$21 \times 8,200$ ).....	172,200	
Cash.....		172,200

To record issuance of treasury stock:

Cash ( $\$28 \times 8,200$ ).....	229,600	
Treasury stock.....		172,200
Contributed capital from treasury stock transactions.....		57,400

## Assignment 13-9

### Requirement 1

15 Jan.	Preferred shares ( $\$4.825^1 \times 7,000$ ).....	33,775	
	Retained earnings.....	2,625	
	Cash ( $\$5.20 \times 7,000$ ).....		36,400
	<sup>1</sup> ( $\$386,000/80,000 = \$4.825$ )		
12 Feb.	Common shares ( $\$8.025^2 \times 2,000$ ).....	16,050	
	Contributed capital on common share retirement.....	5,950	
	Cash ( $\$11 \times 2,000$ ).....		22,000
	<sup>2</sup> ( $\$642,000/80,000 = \$8.025$ )		
25 Feb.	Preferred shares ( $\$4.825 \times 4,000$ ).....	19,300	
	Contributed capital on preferred share retirement .....		3,300
	Cash ( $\$4 \times 4,000$ ).....		16,000
26 April	Preferred shares ( $\$4.825 \times 5,000$ ).....	24,125	
	Contributed capital on preferred share retirement .....	3,300	
	Retained earnings.....	2,575	
	Cash ( $\$6 \times 5,000$ ).....		30,000
16 July	Common shares ( $\$8.025 \times 8,000$ ).....	64,200	
	Contributed capital on common share retirement.....		4,200
	Cash ( $\$7.50 \times 8,000$ ).....		60,000
30 July	Stock dividend (or retained earnings) .....	27,125	
	Common shares.....		27,125
	70,000 shares $\times 5\% = 3,500 \times \$7.75$		
30 Nov.	Preferred dividend declared (or retained earnings) .....	44,800	
	Common dividends declared ( or retained earnings) .....	73,500	
	Preferred dividends payable ( $64,000 \times \$0.70$ ).....		44,800
	Common dividends payable ( $73,500 \times \$1$ ).....		73,500

Requirement 2

*BC VENTURES CORPORATION*

*Shareholder's Equity*

*As at 31 December 20x5*

Contributed capital:

Preferred shares, no-par value, \$0.70, cumulative, authorized unlimited shares, issued and outstanding, 64,000 shares  
(\$386,000 – \$33,775 – \$19,300 – \$24,125)..... \$ 308,800

Common shares, no-par value, authorized unlimited shares, issued and outstanding 73,500 shares  
(\$642,000 – \$16,050 – \$64,200 + \$27,125)..... 588,875

Contributed capital on common share retirement  
(\$14,000 – \$5,950 + \$4,200)..... 12,250

Total contributed capital ..... 909,925

Retained earnings

(\$1,250,000 + 308,200 – \$2,625 – \$2,575  
– \$27,125 – \$44,800 – \$73,500)..... 1,407,575

Reserve for foreign exchange gains on foreign subsidiary ..... 80,800

Total shareholders' equity ..... \$2,398,300

### Assignment 13-10

Not required:

To record original sale of 10,000 shares at \$50:

Cash (10,000 × \$50).....	500,000	
Common shares, no-par (10,000 shares).....		500,000

Entries:

15 January – To record purchase of 100 shares of treasury stock at \$55:

Treasury stock (100 shares × \$55) .....	5,500	
Cash.....		5,500

1 March - To record sale of 20 shares of treasury stock at \$62:

Cash (20 shares × \$62).....	1,240	
Contributed capital from treasury stock transactions.....		140
Treasury stock (20 shares × \$55) .....		1,100

31 March - To record sale of 10 shares of treasury stock at \$59:

Cash (10 shares × \$59).....	590	
Contributed capital from treasury stock transactions.....		40
Treasury stock (10 shares × \$55) .....		550

1 June - To record sale of 70 shares of treasury stock at \$48:

Cash (70 shares × \$48).....	3,360	
Contributed capital from treasury stock transactions (\$140 + \$40) .....		180
Retained earnings.....		310
Treasury stock (70 shares × \$55) .....		3,850

#### Requirement 2

Account balances:

	<i>Shares</i>	<i>Amount</i>
Common shares issued and outstanding .....	10,000	\$500,000
Retained earnings (\$25,000 – \$310) .....		24,690

## Assignment 13-11 (WEB)

### Requirement 1

- a) Memo entry:  
Split common shares 3 for 1; there are now 666,000 ( $222,000 \times 3$ ) shares outstanding,  
With an average issuance price of \$ 1.31 ( $\$875,000/666,000$ ).
- b) To record purchase of 8,000 shares of treasury stock at \$4.25:
- |   |        |        |
|---|--------|--------|
| Treasury stock .....                      | 34,000 |        |
| Cash (8,000 shares $\times$ \$4.25) ..... |        | 34,000 |
- c) To record purchase of 6,000 shares of treasury stock at \$5:
- |  |        |        |
|--|--------|--------|
| Treasury stock .....                   | 30,000 |        |
| Cash (6,000 shares $\times$ \$5) ..... |        | 30,000 |
- d) To record issuance of 5,000 shares of treasury stock at \$9.25:
- |  |        |        |
|--|--------|--------|
| Cash (5,000 shares $\times$ \$9.25).....                                       | 46,250 |        |
| Treasury stock (Average cost = $\$64,000/14,000 = \$4.57 \times 5,000$ ) ..... |        | 22,850 |
| Contributed capital from treasury stock transactions .....                     |        | 23,400 |
- Note: allow for rounding throughout.
- e) To record issuance of 6,000 shares of treasury stock at \$3.00:
- |   |        |        |
|---|--------|--------|
| Cash (6,000 shares $\times$ \$3).....                     | 18,000 |        |
| Contributed capital from treasury stock transactions..... |        | 9,420  |
| Treasury stock (6,000 shares $\times$ \$4.57).....        |        | 27,420 |
- f) Common shares ( $500 \times \$1.31$ ).....
- |  |       |       |
|--|-------|-------|
| Contributed capital from treasury stock transactions ..... | 655   |       |
| Treasury stock ( $500 \times \$4.57$ ).....                | 1,630 |       |
|  |       | 2,285 |
- Since prior treasury stock transactions were in this class (i.e., common), the contributed capital that existed was used to absorb the debit.  
An argument can also be made to debit retained earnings but corporate legislation should be consulted.
- g) Cash dividends declared (or retained earnings)
- |  |         |         |
|--|---------|---------|
| ( $666,000 - 2,500[\text{treasury shares}] \times \$0.25$ )..... | 165,875 |         |
| Cash .....   |         | 165,875 |

### Requirement 2

Common shares ( $\$875,000 - \$655$ ).....	\$ 874,345
Contributed capital from treasury stock transactions ( $\$23,400 - \$9,420 - \$1,630$ ) .....	12,350
Retained earnings ( $\$673,500 + \$472,000 - \$165,875$ ).....	979,625
Treasury stock ( $\$64,000 - 22,850 - \$27,420 - \$2,285$ ), or (2,500 shares $\times$ average cost, \$4.57, rounded).....	(11,445)

## Assignment 13-12

	<i>Dividends</i>		
	<i>Preferred \$0.75</i> <i>(18,000 shares)</i>	<i>Common</i> <i>(54,000 shares)</i>	<i>Total</i>
<b>Case A (Preferred – cumulative; non-participating)</b>			
Arrears (18,000 x \$0.75 x 3).....	\$40,500		\$40,500
Current preference (18,000 × \$0.75).....	\$13,500		13,500
Balance to common.....		<u>\$10,800</u>	<u>10,800</u>
Total .....	<u>\$54,000</u>	<u>\$10,800</u>	<u>\$64,800</u>
Per share.....	<u>\$3.00</u>	<u>\$0.20</u>	
<b>Case B (Preferred – non-cumulative; non-participating)</b>			
Current preference (18,000 × \$0.75).....	13,500		13,500
Balance to common.....		<u>\$27,000</u>	<u>27,000</u>
Total .....	<u>\$13,500</u>	<u>\$27,000</u>	<u>\$40,500</u>
Per share.....	<u>\$0.75</u>	<u>\$0.50</u>	
<b>Case C (Preferred - cumulative; fully participating)</b>			
Arrears (18,000 × \$0.75 × 2).....	\$27,000		\$27,000
Current preference (18,000 × \$0.75).....	13,500		13,500
Common, to match (54,000 × \$1).....		\$54,000	54,000
Balance, \$25,500 x ratio 1/5:4/5 * .....	<u>5,100</u>	<u>20,400</u>	<u>25,500</u>
Total.....	<u>\$45,600</u>	<u>\$74,400</u>	<u>\$120,000</u>
Per share.....	<u>\$2.53</u>	<u>\$1.38</u>	
<b>Case D (Preferred - cumulative; partially participating)</b>			
Current preference (18,000 × \$0.75).....	13,500		13,500
Common, to match (54,000 × \$1).....		\$54,000	54,000
Balance, \$92,500 x ratio 1/5:4/5 * and max of (18,000 x \$0.90 = \$16,200) to pref.....	<u>16,200</u>	<u>76,300</u>	<u>92,500</u>
Total .....	<u>\$29,700</u>	<u>\$130,300</u>	<u>\$160,000</u>
Per share.....	<u>\$1.65</u>	<u>\$2.41</u>	

\* Proportions: Pref:  $\$13,500 \div (\$13,500 + \$54,000)$ ; Common:  $\$54,000 \div (\$13,500 + \$54,000)$

### Assignment 13-13

#### Case A - Preferred cumulative, non-participating;

Note; full dividend for pref is is  $\$0.40 \times 15,000 = \$6,000$

<i>Year</i>	<i>Total Paid</i>	<i>Preferred</i>	<i>Common</i>
1 Partial.....	<u>\$ 1,000</u>	<u>\$1,000</u>	<u>\$ 0</u>
2 Partial.....	<u>\$4,000</u>	<u>\$4,000</u>	<u>\$ 0</u>
2 Arrears.....		\$7,000	
Current.....		<u>6,000</u>	<u>\$19,000</u>
Total.....	<u>\$32,000</u>	<u>\$13,000</u>	<u>\$19,000</u>
4 Partial.....	<u>\$ 5,000</u>	<u>\$5,000</u>	<u>\$ 0</u>
5 Arrears.....		\$1,000	
Current.....		<u>6,000</u>	<u>\$83,000</u>
Total.....	<u>\$90,000</u>	<u>\$7,000</u>	<u>\$83,000</u>

#### Case B - Preferred non-cumulative, non-participating:

<i>Year</i>	<i>Total Paid</i>	<i>Preferred</i>	<i>Common</i>
1.....	<u>\$ 1,000</u>	<u>\$1,000</u>	<u>\$ 0</u>
2.....	<u>\$4,000</u>	<u>\$4,000</u>	<u>\$ 0</u>
3.....	<u>\$32,000</u>	<u>\$6,000</u>	<u>\$26,000</u>
4.....	<u>\$ 5,000</u>	<u>\$5,000</u>	<u>\$ 0</u>
5.....	<u>\$90,000</u>	<u>\$6,000</u>	<u>\$84,000</u>

#### Case C - Preferred non-cumulative, fully participating:

<i>Year</i>	<i>Total Paid</i>	<i>Preferred</i>	<i>Common</i>
1 Preferred, current.....	<u>\$ 1,000</u>	<u>\$1,000</u>	<u>\$ 0</u>
2 Preferred, current.....	<u>\$4,000</u>	<u>\$4,000</u>	<u>\$ 0</u>
3 Preferred, current.....		\$6,000	
Common, to match.....			\$22,500
Balance: preferred 25%, common 75%		<u>875</u>	<u>2,625</u>
Total.....	<u>\$32,000</u>	<u>\$6,875</u>	<u>\$25,125</u>
4 Preferred, current.....	<u>\$ 5,000</u>	<u>\$5,000</u>	<u>\$ 0</u>
5 Preferred, current.....		\$6,000	
Common, to match.....			\$22,500
Balance: preferred 25%, common 75%		<u>15,375</u>	<u>46,125</u>
Total.....	<u>\$90,000</u>	<u>\$21,375</u>	<u>\$68,625</u>

\*Participation allocation based on shares:

Preferred = 25% =  $15,000 \div (15,000 + 45,000)$

Common = 75% =  $45,000 \div (15,000 + 45,000)$

**Case D - Preferred, non-cumulative, partially participating up to an additional \$0.40 or \$6,000 (15,000 × \$0.40):**

<i>Year</i>	<i>Total Paid</i>	<i>Preferred</i>	<i>Common</i>
1 Preferred, current .....	<u>\$ 1,000</u>	<u>\$1,000</u>	<u>\$ 0</u>
2 Preferred, current .....	<u>\$ 4,000</u>	<u>\$4,000</u>	<u>\$ 0</u>
3 Preferred, current .....		6,000	
Common, to match.....			\$22,500
Balance, preferred 21% (not to exceed 15,000 × \$0.40 = \$6,000), common 79% .....		<u>735</u>	<u>2,765</u>
Total .....	<u>\$32,000</u>	<u>\$6,735</u>	<u>\$25,265</u>
4 Preferred, current .....	<u>\$ 5,000</u>	<u>\$5,000</u>	<u>\$ 0</u>
5 Preferred, current .....		6,000	
Common, to match.....			\$22,500
Balance: preferred 21% but (limit (\$6,000), Common, remainder .....		<u>6,000</u>	<u>55,500</u>
Total .....	<u>\$90,000</u>	<u>\$12,000</u>	<u>\$78,000</u>

\*Participation allocation based on base dividend:  
 Preferred = 21% = \$6,000 ÷ (\$6,000 + \$22,500)  
 Common = 79% = \$22,500 ÷ (\$6,000 + \$22,500)

## Assignment 13-14

### Requirement 1

	<i>Preferred</i>	<i>Common</i>
Arrears.....	960,000	(\$4 x 2 years x 120,000 shares)
Current preference.....	480,000	
Common; to match.....		\$1,440,000 (\$2.40 x 600,000 shares outstanding)
Balance**.....	<u>905,000</u>	<u>2,715,000</u>
Total .....	<u>\$2,345,000</u>	<u>\$4,155,000</u>

\*\* Remaining pool = \$6,500,000 - \$960,000 - \$480,000 - \$1,440,000 = \$3,620,000  
 preferred:  $\$3,620,000 \times [\$480,000 \div (\$480,000 + \$1,440,000)]$   
 common:  $\$3,620,000 \times [\$1,080,000 \div (\$480,000 + \$1,440,000)]$

Note that the allocation of participating dividends is one year's base dividend, and does not include the dividend in arrears.

### Requirement 2

Common shares ( $(\$28,800,000/640,000) \times 30,000$ ).....	1,350,000
Retained earnings.....	937,500
Cash ( $\$76.25 \times 30,000$ ).....	2,287,500
Preferred shares ( $(\$13,500,000/120,000) \times 5,000$ ).....	562,500
Contributed capital (balance).....	37,200
Retained earnings.....	300
Cash ( $\$120 \times 5,000$ ).....	600,000
Cash (10,000 shares $\times$ \$80).....	800,000
Contributed capital from treasury stock transactions.....	200,000
Treasury stock ( $\$2,400,000 / 40,000$ ) $\times$ 10,000).....	600,000
Retained earnings (dividends) (580,000 shares $\times$ 10% $\times$ \$77) .....	4,466,000
Common share fractional rights outstanding (2,000 shares $\times$ \$77)	154,000
Common shares (56,000 shares $\times$ \$77).....	4,312,000

## Assignment 13-15

### Requirement 1

	Case 1 (1)	Case 2 (2)	Case 3 (3)
Shareholders' Equity Contributed Capital: Share capital:			
Preferred shares, no-par value, \$1.25, cumulative and non-participating, unlimited shares authorized, 40,000 shares issued and outstanding	\$1,000,000	\$1,000,000	\$1,000,000
Common shares, no-par value, unlimited shares authorized, 1,098,000 shares issued and outstanding	2,675,000	10,727,000	2,675,000
Other contributed capital: common share retirement	<u>45,900</u>	<u>45,900</u>	<u>45,900</u>
Total contributed capital	3,720,900	11,772,900	3,720,900
Retained earnings	12,001,000	3,949,000	12,001,000
Reserve for unrealized exchange gain on translation of foreign subsidiary	<u>90,500</u>	<u>90,500</u>	<u>90,500</u>
Total Shareholders' Equity	<u>\$15,812,400</u>	<u>\$15,812,400</u>	<u>\$15,812,400</u>

#### Calculations:

##### (1) Case 1

Stock dividend recorded as a memo entry only; no change to any equity account but the number of common shares increases from 366,000 to  $(366,000 + (366,000 \times 200\%)) = 1,098,000$

##### (2) Case 2

Stock dividend recorded at \$11 per share; retained earnings decreases and common shares increases by  $(366,000 \times 200\% \times \$11) = \$8,052,000$   
 $\$2,675,000 + \$8,052,000 = \$10,727,000$   
 $\$12,001,000 - \$8,052,000 = \$3,949,000$

##### (3) Case 3

Stock split; no change to any equity account but the number of shares increases from 366,000 to  $(366,000 \times 3) = 1,098,000$

## *Requirement 2*

None of the alternatives change total shareholders equity. All have identical economic effect. The market value of the shares should move to one-third of the prior level - from \$11 to \$3.67. This is not recorded on the books.

The stock split can only be recorded one way, through a memo entry. Only the shares outstanding are changed. If the stock dividend is viewed as the same economic transaction as the split, then memo treatment (Case 1) is the only approach that makes the reporting of these two alternatives the same.

However, the company can choose to record the stock dividend with a value, reducing retained earnings and increasing share capital. This is shown in Case 2. An unsuspecting reader might assume that the company in Case 2 has less of an earnings history and has had more shareholder investment than the company in Cases 1 and 3. This would be an erroneous conclusion.

If the company is trying to communicate to shareholders that retained earnings balances are not available for dividends, Case 2 might help convey his message. However, it is clear that the split shares will not be worth \$11, so the use of this value to record the stock dividend is suspect. Use of \$3.67 per share might be more supportable.

The Board should be consulted as to their objectives in issuing additional shares. If they wish to capitalize earnings, they may follow the approach in Case 2, perhaps with a lower value. Otherwise, the memo treatment appears to make sense.

## Assignment 13-16

### Requirement 1

- 5 November 20x5 - Declaration date of stock dividend: Memo entry only.  
 20 December 20x5 - Record date; no entry; obtain list of shareholders of record  
 31 December 20x5 - End of accounting period; no entry (Disclosure required)  
 10 January 20x6 - Issue date:

	<i>Amount Capitalized</i>		
	<i>Case A</i> <i>Market Value</i>	<i>Case B</i> <i>Stated Value</i>	<i>Case C</i> <i>Average Paid In</i>
Stock dividend (or RE).....	100,000	80,000	68,860
Share capital, no-par (8,000 shares)*.....	100,000	80,000	68,860

\*40,000 shares ÷ 5 = 8,000 shares issued as a stock dividend.  
 Capitalize: Market value: 8,000 shares × \$12.50 = \$100,000  
 Stated value: 8,000 shares × \$10 = \$80,000  
 Average paid in: \$344,300/40,000 = \$8.6075; 8,000 sh × \$8.6075 = \$68,860

### Requirement 2

Valuation is up to the Board of Directors. Market value is often used when there is a “small” stock dividend. (In the US, “small” is defined as less than 20 to 25 percent of the outstanding shares prior to the dividend.) A small stock dividend is believed to usually have a relatively small impact on the market price per share.

An arbitrary amount (\$10), or average paid in to date, may be used, after Board of Directors approval, if the incorporating jurisdiction so allows. Either of these values may be adopted if market value is not determinable or not appropriate.

Large stock dividends should be recorded with a memo entry to demonstrate that nothing of substance has changed. The “pie” – net assets – is now cut into smaller pieces.

### Requirement 3

At the end of 20x5, the only requirement is a disclosure note that explains the stock dividend declared but not issued; it is not a liability.

### Requirement 4

The financial statements at 31 December 20x5 would report the stock dividend as follows, if the dividend were recognized when declared:

- The stock dividend would be recorded, reducing retained earnings and shareholders' equity
- A stock dividend distributable account would be recognized, increasing shareholders' equity.

Total shareholders' equity is therefore unchanged.

## Assignment 13-17

### Requirement 1

Common shares ( $\$320,000 \div (160,000 \times 4) \times 22,000$ ) .....	11,000
Retained earnings.....	253,000
Cash ( $22,000 \times \$12$ ) .....	264,000

### Requirement 2

Preferred shares: 5,000

Conversion terms: 3 shares x 4 (split) = 12 shares

Share entitlement 5,000 shares x 12 = 60,000 shares

This assumes that the terms of the preferred share contract requires automatic adjustment of the conversion terms after a split. It would be very unusual if such a term were not present.

### Requirement 3

Basic earnings per common share:

$\$207,000$ (unchanged) $\div$ (160,000 shares x 4)	<u>\$ 0.32</u>
Dividends per common share (\$160,000 total unchanged) ( $\$160,000 / 640,000$ shares)	<u>\$ 0.25</u>

### Requirement 4

Other changes to the 20X8 comparative statements due to the stock split:

- Common shares shown as 640,000 shares issued and outstanding \$320,000
- Note disclosure will report that each preferred share is convertible into 12 common shares.

## Assignment 13-18

### Requirement 1

Stock dividends (retained earnings) ( $452,000 \text{ shares} \times 5\% \times \$4.50$ ) ...	101,700	
Common shares .....		101,700

### Requirement 2

Stock dividends (retained earnings) ( $452,000 \text{ shares} \times 5\% \times \$4.50$ ) ...	101,700	
Common share fractional rights outstanding ( $1,600 \text{ shares} \times \$4.50$ )		7,200
Common shares ( $452,000 \text{ shares} \times 5\% = 22,600$ ; $22,600 - 1,600 = 21,000 \times \$4.50$ ) .....		94,500
Common share fractional rights outstanding .....	7,200	
Common shares (70%) .....		5,040
Contributed capital, lapse of share rights (30%) .....		2,160

### Requirement 3

Stock dividends (retained earnings) ( $452,000 \text{ shares} \times 5\% \times \$4.50$ ) ...	101,700	
Cash ( $1,600 \text{ shares} \times \$4.50$ ) .....		7,200
Common shares ( $21,000 \text{ shares} \times \$4.50$ ) .....		94,500

*Requirement 4*

Stock dividends (retained earnings) ( $452,000 \text{ shares} \times 5\% \times \$4.50$ ) ...	101,700
Stock dividend distributable .....	101,700

It is also acceptable to set up a fractional share rights distributable account, but the corporate reporting result would not be changed by the use of two accounts versus one account for the credit.

Stock dividend distributable .....	101,700
Common share fractional rights outstanding ( $1,600 \text{ shares} \times \$4.50$ )	7,200
Common shares ( $452,000 \text{ shares} \times 5\% = 22,600$ ; $22,600 - 1,600 = 21,000 \times \$4.50$ ) .....	94,500
Common share fractional rights outstanding .....	7,200
Common shares (70%) .....	5,040
Contributed capital, lapse of share rights (30%) .....	2,160

*Requirement 5*

In requirement 2, an equity account is created for fractional shares, which either becomes common share equity (on exercise) or contributed capital (on lapse). In requirement 3, cash is distributed, decreasing equity.

The disadvantages of a cash distribution might be that it will cost the company money and decrease total equity; the stock dividend may have been formulated to avoid both these outcomes. On the other hand, fractional shares might be unattractive to the company and the shareholders because they have to be accumulated, tracked and traded. Some may also expire, which means that the value intended is not transferred. Cash is the “cleaner” option.

## Assignment 13-19

### Requirement 1

#### Case A

Stock dividend (500,000 shares  $\times$  14% = 70,000 additional shares):

Stock dividend declared (or retained earnings) (70,000 shares $\times$ \$37).....	2,590,000
Common shares, no-par (70,000 shares) .....	2,590,000

#### Case B

Memo entry only to record the split.

500,000 common shares were called in and replaced with 1,500,000 new shares.

#### Case C

Stock dividend (500,000 shares  $\times$  6% = 30,000 additional shares):

Stock dividend declared (or retained earnings) (30,000 shares $\times$ (\$14,000,000/ 500,000); \$28).....	840,000
Common shares, no-par (28,000 shares $\times$ \$28) .....	784,000
Common share fractional share rights outstanding (2,000 sh. $\times$ \$28)	56,000
Common share fractional share rights outstanding .....	56,000
Common shares, no-par (1,500 shares $\times$ \$28) .....	42,000
Contributed capital, lapse (500 shares $\times$ \$28) .....	14,000

### Requirement 2

#### Case A

Common shares (\$14,000,000 + \$2,590,000)	\$16,590,000
Retained earnings (\$26,533,100 – \$2,590,000)	<u>23,943,100</u>
	<u>\$40,533,100</u>

#### Case B

No change to equity accounts:

Common shares	\$14,000,000
Retained earnings	<u>26,533,100</u>
	<u>\$40,533,100</u>

#### Case C

Common shares (\$14,000,000 + \$784,000 + \$42,000)	\$14,826,000
Contributed capital, lapse of rights	14,000
Retained earnings (\$26,533,100 – \$840,000)	<u>25,693,100</u>
	<u>\$40,533,100</u>

### Requirement 3

None of the transactions change total shareholders' equity. The split has no effect on the components of equity, while the stock dividend will transfer amounts from retained earnings to common shares or contributed capital.

## Assignment 13-20

### Requirement 1

20 February: redemption of preferred shares:		
Preferred shares ( $\$2,040,000 \div 20,000$ ) $\times$ 1,000.....	102,000	
Retained earnings.....	5,000	
Cash ( $\$107 \times 1,000$ ) .....		107,000
28 February: dividend declaration:		
Preferred dividends declared (or retained earnings) .....	19,000	
Common dividends declared (or retained earnings) .....	81,000	
Preferred dividends payable ( $19,000 \times \$1$ ).....		19,000
Common dividends payable ( $\$100,000 - \$19,000$ ).....		81,000
31 March: common shares retired:		
Common shares ( $8,000 \times (\$640,000 \div 80,000)$ ).....	64,000	
Contributed capital on retirement of common shares .....	32,000	
Cash ( $8,000 \times \$12$ ) .....		96,000
2 April: stock dividend:		
Stock dividend declared (or retained earnings)		
( $72,000 \text{ shares} \times 3\% = 2,160 \text{ shares} \times \$11.50$ ).....	24,840	
Common shares, no-par ( $2,160 - 200$ ) $\times$ $\$11.50$ .....		22,540
Common share fractional share rights outstanding ( $200 \text{ sh.} \times \$11.50$ ) .....		2,300
30 April: exercise and lapse of rights:		
Common share fractional share rights outstanding .....	2,300	
Common shares, no-par ( $200 \text{ shares} \times 40\% \times \$11.50$ ).....		920
Contributed capital, lapse ( $200 \text{ shares} \times 60\% \times \$11.50$ ).....		1,380

### Requirement 2

#### Contributed Capital

Preferred shares, \$1, no-par, 100,000 shares authorized, cumulative, redeemable at company's option at \$107 plus dividends in arrears. Each preferred share is convertible into 10.3 common shares.	
Issued and outstanding, 19,000 shares	\$1,938,000
Common shares, no-par, 100,000 shares authorized and 74,040 issued and outstanding	599,460
Contributed capital on lapse of rights	1,380
Contributed capital on retirement of common shares	<u>88,000</u>
	2,626,840
Retained earnings*	<u>2,290,160</u>
	<u>\$4,917,000</u>

\* $\$1,600,000 - \$5,000 - \$100,000 - \$24,840 + \$820,000$  (earnings)

## Assignment 13-21

### Requirement 1

Retained earnings, 1 January 20X1 .....	\$ 7,800,300
Increases:	
Error correction, net of tax .....	104,200
Earnings (\$655,400 - \$9,400) .....	<u>646,000</u>
Total .....	8,550,500
Deductions:	
Cash dividends	
Preferred .....	(150,000)
Common .....	(140,000)
Stock dividends, common shares .....	(533,000)
Share retirement	
Excess of retirement price over issuance price .....	<u>(20,000)</u>
Retained earnings, 31 December 20X1 .....	<u><u>\$7,707,500</u></u>

### Requirement 2

*Serious Sound Corp.  
Shareholders' Equity  
As at 31 December 20X1*

Contributed Capital:	
Preferred shares, Class A .....	\$3,750,000
Common shares .....	2,631,700
Stock dividend distributable, common shares .....	220,100
Fractional common share rights outstanding .....	31,500
Contributed capital on preferred share retirement .....	<u>6,500</u>
Total contributed capital .....	6,639,800
Retained earnings .....	7,707,500
Reserve re: unrealized gain on investment (\$100,600 + \$15,000) .....	<u>115,600</u>
	14,462,900
Less: Treasury stock, common .....	<u>(72,000)</u>
Total Shareholders' Equity .....	<u><u>\$14,390,900</u></u>

**Assignment 13-22 (WEB)**

	Preferred shares	Common shares	Fractional shares o/s	Retained earnings	Reserve for foreign exchange gains of foreign subsidiary	Total equity
Balance at 1 January 20X1	3,000	7,400	240	6,780	451	17,871
Comprehensive income, including earnings of \$871 and foreign exchange on subsidiary, a gain of \$39				871	39	910
Common shares issued for cash of \$788		788				788
Preferred shares bought back; ten percent of opening balance bought back for cash; paid \$85 more than average issue price	(300)			(85)		(385)
Cash dividends to shareholders; \$170 to preferred and \$367 to common				(170) (367)		(170) (367)
Fractional shares turned in for common (80% of fractional rights); remainder are still outstanding		192	(192)			--
Balance at 31 December 20X1	<u>\$ 2,700</u>	<u>\$ 8,380</u>	<u>\$ 48</u>	<u>\$ 7,029</u>	<u>\$ 490</u>	<u>\$ 18,647</u>

## Assignment 13-23

### Requirement 1

The reserve represents unrealized gains on FVTOCI investments. At the beginning of the year, investment assets are valued at fair value, which is \$48 higher than cost. By the end of the year, this differential is \$61. The reserve is on the statement of financial position, in equity, below retained earnings

### Requirement 2

Comprehensive income is the combination of earnings and the changes in unrealized amounts; \$1,993 ( $\$1,980 + \$13$ ).

### Requirement 3

Cash of \$1,361 ( $\$1,005 + \$356$ ) was paid to retire common shares.

### Requirement 4

Cash of \$781 ( $\$630 + \$116 + \$35$ ) was paid to retire preferred shares. Contributed capital is reduced only to the extent that it had previously been created by preferred share retirement. Once contributed capital from this source is “used up” (\$116), any additional excess over original issuance price paid (\$35) is then allocated to retained earnings.

### Requirement 5

Another alternative for share issuance costs is to reduce the share capital account, which effectively reports the *net* amount raised as share capital.

### Requirement 6

A stock dividend is a distribution of shares to existing shareholders. It has been recorded by reducing retained earnings and increasing share capital. Total equity does not change, but earnings are, in effect, capitalized to the share capital account.

The value per share assigned to a stock dividend is up to the Board of Directors. They may value the dividend at the market value per share, or some assigned value, including average capital paid in to date. There is some implication that the value used to record the dividend implies the value received by shareholders, although it is not clear why increasing the number of shares should be thought to increase wealth. A stock dividend can also be recorded as a memo entry which does not affect the value assigned to any equity account. The memo entry approach is common for larger stock dividends and is the required treatment for a stock split.

### Assignment 13-24

	Preferred shares	Common shares	Cont'd capital retirement of pref.	Retained earnings	Reserve for foreign exchange gains of foreign subsidiary	Treasury stock	Total equity
Balance at 1 January 20X2 (1)	6,000	7,500	40	2,165	(320)	(2,200)	13,185
Common shares retired (2)		(568.75)		(310.3)			(879.05)
Treasury shares re-sold				(24.6)		2,200	2,175.4
Comprehensive income				421.8	131		552.8
Preferred dividend				(240)			(240)
Common dividend				(86.5)			(86.5)
Preferred shares retired (3)	(1,500)		90				(1,410)
Share retirement costs (4)				(133)			(133)
Error correction \$90 (1-.4)				54			54
Balance at 31 December 20X2	<u>4,500</u>	<u>6,931.25</u>	<u>130</u>	<u>1,846.4</u>	<u>(189)</u>	<u>--</u>	<u>13,218.65</u>

Note:

1. The stock split does not affect recorded values and is not included on the statement.
2.  $\$7,500,000/1,200,000 = \$3.125 \times 182,000 = \$568,750$
3.  $(\$6,000/240) = \$25$ ;  $\$25 \times 60,000 = 1,500$  versus  $\$23.50 \times 60,000 = 1,410,000$
4. This amount increases the loss on both share retirements, which would increase the charge to RE in both cases.

## 5. Assignment 13-25

### Requirement 1

15 Jan.	Series A preferred shares (25,000 × \$25.21*) .....	630,250	
	Retained earnings.....	144,750	
	Cash (25,000 × \$31).....		775,000
	*(\$12,100,000 ÷ 480,000) = \$25.21; allow for rounding		

15 Jan.	Machinery .....	1,600,000	
	Common shares, no-par, 80,000 shares .....		1,600,000
	The value of the machinery is used to value the transaction because it is the value of assets received.		

11 March	Series B preferred shares (15,000 × \$105*).....	1,575,000	
	Contributed capital on retirement, Series B.....	101,000	
	Retained earnings.....	64,000	
	Cash (15,000 × \$116).....		1,740,000
	*(\$10,500,000 ÷ 100,000) = \$105		

30 April	Common shares (60,000 × \$15.78*).....	946,800											
	Retained earnings.....	373,200											
	Cash (60,000 × \$22).....		1,320,000										
	* <table style="display: inline-table; vertical-align: middle;"> <thead> <tr> <th style="text-align: left;">Shares</th> <th style="text-align: left;">Book value</th> </tr> </thead> <tbody> <tr> <td>1 Jan. 1,200,000</td> <td>\$18,600,000</td> </tr> <tr> <td>15 Jan. <u>80,000</u></td> <td><u>1,600,000</u></td> </tr> <tr> <td></td> <td><u>1,280,000</u></td> </tr> <tr> <td></td> <td><u>\$20,200,000</u></td> </tr> </tbody> </table> \$15.78 (\$20,200,000 ÷ 1,280,000)			Shares	Book value	1 Jan. 1,200,000	\$18,600,000	15 Jan. <u>80,000</u>	<u>1,600,000</u>		<u>1,280,000</u>		<u>\$20,200,000</u>
Shares	Book value												
1 Jan. 1,200,000	\$18,600,000												
15 Jan. <u>80,000</u>	<u>1,600,000</u>												
	<u>1,280,000</u>												
	<u>\$20,200,000</u>												

30 Dec.	Dividends declared, Series A (or retained earnings)...	341,250	
	Dividends declared, Series B (or retained earnings)		
	(\$42,500 + \$21,250 + \$6,500) .....	70,250	
	Dividends declared, Common (or retained earnings)		
	(\$305,000 + \$93,500).....	398,500	
	Cash.....		810,000

Series A: (480,000 – 25,000) × \$0.75 = \$341,250

Series B arrears (100,000 – 15,000) × \$0.25 × 2 = \$42,500

Series B: base (100,000 – 15,000) × \$0.25 × 1

= \$21,250 (6.5% of \$326,250 base (base is \$21,250 + \$326,250))

Common matching: (1,280,000 – 60,000) × \$0.25

= \$305,000 (93.5% of \$326,250 base)

Total: \$341,250 + \$42,500 + \$21,250 + 305,000 = \$710,000

Remainder: \$100,000; \$6,500 to preferred and \$93,500 to common

Does not exceed \$0.50 cap on pref. participation (\$0.50 × 85,000 = \$42,500)

31 Dec.	Stock dividend (or retained earnings) .....	2,684,000	
	Common shares.....		2,673,000
	Common share fractional share rights .....		11,000
	Total = 1,220,000 × 10% = 122,000 shares × \$22 = \$2,684,000		
	Issued = (122,000 – 500) × \$22 = \$2,673,000		
	Fractional = 500 × \$22 = \$11,000		
	Shares outstanding: 1,220,000 + 121,500 = 1,341,500		

*Requirement 2*

*Kingdom Corporation  
Shareholders' Equity as of 31 December 20x2*

Contributed Capital

Series A preferred shares, no-par, \$0.75, cumulative, 455,000 shares issued and outstanding .....	\$11,469,750
Series B preferred shares, no-par, \$0.25, cumulative, participating in dividends with common shares to an additional \$0.50 after the common shares have received a \$0.25 matching dividend; 85,000 shares issued and outstanding. Participation is based on relative annual total base dividends.....	8,925,000
Common shares, 1,341,500 shares issued and outstanding .....	21,926,200
Common shares fractional share rights.....	<u>11,000</u>
Total contributed capital .....	42,331,950
Retained earnings (\$14,600,000 + \$1,609,000 – \$144,750 – \$64,000 – \$373,200 – \$810,000 (total dividend) – \$2,684,000) .....	<u>12,133,050</u>
Total shareholders' equity.....	<u>\$54,465,000</u>

**Assignment 13-26 (WEB)**

a) <i>1 February 20X5</i>		
Cash .....	36,000,000	
Common shares, no-par (2,000,000 shares × \$18) .....		36,000,000
b) <i>15 February 20X5</i>		
Cash .....	11,000,000	
Preferred shares, no-par (100,000 shares) .....		11,000,000
c) <i>1 March 20X5</i>		
Common shares, no-par (20,000 shares) .....	313,000	
Contributed capital on common share retirement.....		23,000
Cash (20,000 × \$14.50) .....		290,000
Cash required to retire shares (20,000 × \$14.50).....	\$290,000	
Average proceeds on issuance \$15.65 × 20,000		
(\$266,000,000/17,000,000 = \$15.65) .....	<u>313,000</u>	
Excess of original issue price over cash paid .....	<u>\$ 23,000</u>	
d) <i>15 March 20X5</i>		
Common shares, no-par (\$15.65 × 10,000) .....	156,500	
Contributed capital (balance from c) .....	23,000	
Retained earnings (\$200,000 – \$156,500 – \$23,000) .....	20,500	
Cash (\$20.00 × 10,000) .....		200,000
e) <i>31 March 20X5</i>		
Declared cash dividend:		
Common dividend declared (or retained earnings)		
(16,970,000 sh. × \$.10)* .....	1,697,000	
Common dividends payable .....		1,697,000
Payment date of cash dividend:		
Common dividends payable .....	1,697,000	
Cash .....		1,697,000
* Number of common share at beginning of period .....		15,000,000
1 February issuance of additional shares .....		<u>2,000,000</u>
Total common shares issued .....		17,000,000
Less: retired shares		
1 March .....	20,000	
15 March .....	<u>10,000</u>	<u>30,000</u>
Number of shares outstanding subject to cash dividend		16,970,000
Cash dividend rate (given).....		<u>\$ 0.10</u>
Total dividend (debited to retained earnings) .....		<u>\$ 1,697,000</u>

f) <i>15 April 20X5</i>		
Treasury stock (18,000 × \$17.50).....	315,000	
Cash.....		315,000
g) <i>30 April 20X5</i>		
Cash (12,500 × \$19.25).....	240,625	
Treasury stock (12,500 × \$17.50).....		218,750
Contributed capital from treasury stock transactions.....		21,875
h) <i>31 May 20X5</i>		
Stock dividend (or retained earnings).....	19,509,175	
Common shares, no-par (845,925 × \$23).....		19,456,275
Common share fractional share rights.....		52,900
Shares:           (16,970,000 – 5,500) × 5% = 848,225		
Amount:         848,225 × \$23 = \$19,509,175		
Fractional:      2,300 × \$23 = \$52,900		
Common Shares: \$19,509,175 – \$52,900 = \$19,456,275		
i) <i>6 July 20X5</i>		
Cash (300,000 × \$25).....	7,500,000	
Common shares, no-par.....		7,500,000
j) <i>30 September 20X5</i>		
Common dividend declared (or retained earnings).....	1,811,043	
Preferred dividend declared (or retained earnings).....	800,000	
Common dividends payable (18,110,425 × \$.10).....		1,811,043
Preferred dividends payable (100,000 × \$8).....		800,000
Common shares: 16,970,000 – 5,500 + 845,925 + 300,000 = 18,110,425		
<i>30 October 20X5</i>		
Common dividends payable.....	1,811,043	
Preferred dividends payable.....	800,000	
Cash.....		2,611,043
k) <i>31 December 20X5</i>		
Common share fractional rights.....	52,900	
Common shares (1,850 × \$23).....		42,550
Contributed capital, lapse of rights.....		10,350
l) <i>31 December 20X5</i>		
No entry is needed; however, as part of the closing entries, earnings and dividends would be formally closed to retained earnings.		

### Assignment 13-27

<i>Requirement 1</i>	<i>Preferred</i>	<i>Common</i>
Current dividend	\$2,400	
Common; to match.....		\$27,600 (\$0.30 x 92,000 shares outstanding)
Balance** .....	<u>640</u>	<u>7,360</u>
Total .....	<u>\$3,040</u>	<u>\$34,960</u>

\*\* Remaining pool = \$38,000 - \$2,400 - \$27,600 = \$8,000

preferred:  $\$8,000 \times [\$2,400 \div (\$2,400 + \$27,600)]$

common:  $\$8,000 \times [\$27,600 \div (\$2,400 + \$27,600)]$

### *Requirement 2*

Preferred shares .....	\$ 360,000
Less: retirement ( $(\$360,000/4,000) \times 500$ ) .....	<u>(45,000)</u>
Balance .....	<u>\$ 315,000</u>

Common shares .....	1,080,000
Plus: issuance for land .....	50,000
Plus: stock dividend ( $(96,100^*) \times 10\% - 350$ ) $\times$ \$40) .....	<u>370,400</u>
Balance .....	<u>\$1,500,400</u>

\* 97,000 shares issued less 900 in the treasury

Contributed capital on retirement of preferred shares ( $\$17,000$ less retirement used $\$17,000$ ) .....	<u>\$ 0</u>
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Retained earnings .....	\$ 4,356,900
Plus: earnings .....	1,450,000
Less: Cash dividend .....	(38,000)
Less: preferred share retirement ( $\$65,000 - \$45,000 - \$17,000$ ).....	(3,000)
Less: treasury stock transaction ( $\$12,200 - (600 \times \$15)$ ).....	(3,200)
Less: stock dividend ( $(97,000 - 900) = 96,100 \times 10\% \times \$40$ ) .....	<u>(384,400)</u>
Balance .....	<u>\$ 5,378,300</u>

Treasury stock .....	\$ 18,000
Plus: additional shares purchased .....	12,500
Less: shares issued ( $(\$30,500/1,500) \times 600$ ) .....	<u>(12,200)</u>
Balance .....	<u>\$ 18,300</u>

Fractional share rights ( $350 \times \$40$ ) .....	<u>\$ 14,000</u>
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### *Requirement 3*

The appraisal value of land was used to value the non-monetary exchange. This is based on the requirement to value non-monetary exchanges at the value of the asset received.

### Assignment 13-28

Item	Share Capital	Fractional Share Rights	Other Contributed Capital	Retained Earnings	Reserve: unrealized gains on investments	Treasury Stock
a. (given)	NE	NE	NE	NE	NE	NE
b.	NE	NE	I	NE	NE	NE
c.	NE	NE	NE	NE	NE	I
d.	NE	NE	NE	NE	I	NE
e.	NE	NE	NE	D	NE	NE
f. (1)	NE	NE	I*	D	NE	NE
g.	I	I	D	NE	NE	NE
h.	I	D	I	NE	NE	NE
i.	D	NE	NE	D	NE	NE
j.	NE	NE	I	NE	NE	D
k.	NE	NE	D**	D**	NE	D
l.	NE	NE	NE	I	NE	NE

(1) Assuming that stock dividend is recorded when declared; otherwise, NE across all categories; g should be answered consistently.

\* Also acceptable to increase share capital to represent stock dividend distributable; g to be done consistently.

\*\* Since contributed capital from prior transactions has been recorded, it is reduced to zero before retained earning is reduced; retained earnings is only decreased if needed

## Assignment 13-29

### Requirement 1

Retained earnings	
	op. bal. 5,940,000
	earnings.2,600,000
sh. issuance 200,300	
cash div. (1)334,700	
bal.	8,005,000

(1) to balance

### Requirement 2

#### Cash from financing:

Issued common shares, for cash (1) .....	4,040,800
Preferred share subscription payment .....	3,300,000
Dividends paid (as above) .....	(334,700)
Retirement of preferred shares (2) .....	(878,000)
Share issue costs .....	(200,300)

#### Cash for investing:

Purchase of patent .....	(2,000,000)
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(1)  $\$36,000,000 + \$4,500,000$  (patent) + 459,200 (fractional shares) =  $\$40,959,200$   
 versus  $\$45,000,000$

(2)  $\$1,000,000 - \$122,000$

**Assignment 13-30**

*Ottawa Limited*  
*Partial Cash Flow Statement*  
*For the year ended 31 December 20x5*

## Financing activities

Issuance of preferred shares (\$100,000 – \$2,000) .....	\$ 100,000
Share issuance costs (1) .....	(2,000)
Retirement of preferred shares (\$40,000 – \$7,000) .....	(33,000)
Retirement of common shares .....	(360,000)
Issuance of common shares .....	832,600
Payment of dividends .....	(256,000)

(1) May also be shown net with issuance, for \$98,000

## Common shares:

Opening balance (570,000 × \$12)	\$6,840,000
Retirement (20,000 × \$12)	(240,000)
Stock dividend (55,000 – 3,200) × \$17.50	906,500
Rights (2,700 × \$17.50)	47,250
Issued for land, 3,000 shares*	52,000
Issued for cash (to balance)	<u>832,600</u>
Closing balance	<u>\$8,438,350</u>

## Retained earnings:

Opening balance	\$3,911,500
Earnings	1,200,000
Share issue costs – preferred	(2,000)
Stock dividend (55,000 × \$17.50)	(962,500)
Common share retirement (\$360,000 – (20,000 × \$12) = \$120,000.	
\$120,000 – \$96,000	(24,000)
Cash dividend (to balance)	<u>(256,000)</u>
Closing balance	<u>\$3,867,000</u>

\* Non-cash transaction, omitted from CFS