NEW YORK UNIVERSITY
ROBERT F. WAGNER GRADUATE SCHOOL OF PUBLIC SERVICE
P11.1021: Financial Management
Midterm Examination **SOLUTIONS**
Professors Rose, Forsythe, and Calabrese
Fall 2006

Name: _____

Student ID: _____

PLEASE CIRCLE YOUR SECTION

TUESDAY	TUESDAY	WEDNESDAY	WEDNESDAY
12:30 pm	6:20 pm	12:30 pm	6:20 pm

Directions:

1) As a courtesy to your classmates, please turn off electronic devices such as cell phones and pagers. You have 135 minutes to complete the exam.

2) Print your initials at the top of each page.

3) You may use one page of notes. Place all other written materials on the floor.

4) You may use, but not share, a calculator. Remember to clear your calculator before each calculation (2nd F, then C – CE). If you do not, you may get the wrong answers.

5) Look through the entire exam before you begin.

6) The points for each question are indicated in parentheses next to the question.

7) Hand in your exam plus all other papers (including your one page of notes).

Good Luck!

==
This section for Graders:

1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____

7 _____ 8 _____

Total Points _____ X 40% = Course Points _____

1.   (2 points) In one sentence, define a budget.

A budget is a plan.
A plan indicating management's objectives and how it intends to reach those objectives. [2]
Something comparable for full credit.

2.   (2 points) Working capital management focuses on making sure that an organization has sufficient resources to operate:

i. in accordance with its mission

ii. over the next year [2]

iii. efficiently

iv. over the expected life of the organization

3.   (10 points) The Wagner Student Association (WSA) is planning a fundraising event for the spring semester. The WSA is planning to hire the Dizzy Gillespie Heritage Band as entertainment for a fee of $750. The Schomberg Museum was selected as the site for the event. The Museum will charge the WSA $600 for the use of its banquet room. Sylvia's Restaurant was selected to cater the event. Sylvia's Restaurant will charge the WSA a flat fee of $400 and an additional charge of $20 per meal.

a) (5 points) The WSA expects a total of 250 students and alumni to attend its spring fundraising event. What is the break-even ticket price?

Fixed Cost = $750 + 600 + 400 = $1,750 [2]; Unit Variable Cost = $20 [1/2];
BEQ = 250 [1/2]
students 250 = 1,750/ (p – 20) : p = $27[2]

b) (5 points) The WSA is considering charging two different ticket prices: $25 for students and $75 for alumni. If the expected ratio of students to alumni is three to one, how many student tickets and how many alumni tickets must each be sold in order for the spring fundraising event to break even?

*Contribution margin on student tickets = $25 – $20 = $5 Contribution margin on alumni tickets = $75 – $20 = $55 Weighted average contribution margin = $5 * 75% + $55 * 25% = $17.50   BEQ = $1,750[1] / $17.50 [1]= 100[1]: 75 students [1] and 25 alumni[1]*

4. (10 points) The Port Authority of New York and New Jersey (PANYNJ) is deciding whether to purchase cranes manufactured by Paceco or Tripoli for use in its marine terminals. While the Tripoli cranes have a lower purchase price, they are more expensive to maintain annually and must be replaced sooner than the Paceco cranes. The Tripoli cranes have useful lives of 5 years, while the Paceco cranes have useful lives of 10 years. The cash flows related to each of the choices are presented below. If the PANYNJ's cost of capital is 7%, which company's cranes should the PANYNJ buy? Show your work.

Year	Paceco	Tripoli
0	(300,000)	(125,000)
1	(20,000)	(30,000)
2	(20,000)	(30,000)
3	(20,000)	(30,000)
4	(20,000)	(30,000)
5	(20,000)	(30,000)
6	(20,000)	
7	(20,000)	
8	(20,000)	
9	(20,000)	
10	(20,000)	
Total	(500,000)	(370,000)

Paceco

Annual Costs $\quad$ *PMT = 20,000, N = 10, I = 7%, PV = ? =140,471.63* **[1/2]**

Net Present Cost = 300,000 **[1/2]** *+ 140,471.63 = 440,471.63* **[1/2]**

Annualized Cost $\quad$ *PV = 440,471.63, N = 10, I = 7%, PMT = ? = 62,713.25* **[3]**

Tripoli

Annual Costs $\quad$ *PMT = 30,000, N = 5, I = 7%, PV = ? = 123,005.92* **[1/2]**

Net Present Cost = 125,000 **[1/2]** *+ 123,005.92 = 248,005.92* **[1/2]**

Annualized Cost $\quad$ *PV = 248,005.92, N = 5, I = 7%, PMT = ? = 60,486.34* **[3]**

Select Tripoli. Lower annualized cost. **[1]**

5.   (8 points) Exactly 20 years ago, the State of New York issued a bond with a 30-year maturity, a 10% coupon, and a face value of $1 million. The bond pays interest every six months.

   a)   (5 points) If the current market interest rate is 7%, how much is the bond worth today?

FV = 1,000,000 [1/2]
*N = 10 years remaining * 2 = 20 periods [1/2]*
I = 7/2 = 3.5% [1]
PMT = 50,000 [1]
PV = ? = 1,213,186 [2]

   b)   (3 points) Show the Excel formula that would correctly solve this problem.

= PV (3.5%, 20, -50000, -1000000)
*   [1/2] [1/2]   [1]   [1]*

6.   (5 points) Against the odds, you won the New York State Lottery. The jackpot was advertised as $40 million. As the winner, you are entitled to payments of $2 million at the beginning of each year for 20 years ($2 million x 20 years = $40 million). If you can earn 5% on your savings per year, how much is the lottery prize worth to you?

BGN [1]
PMT = 2 million [1]
N = 20 years [1/2]
I = 5% [1/2]
PV = ? =26,170,641.72 [2]

7.   (13 points) The Gotham City Police Department has an officer labor expense budget for the month of October 2006 of $360,000. It expects to process 2,400 criminals <u>per month</u>, that each criminal will take 3 hours to process, and that each officer will be paid $50 per hour. During October 2006, the Gotham City police actually processed 3,200 criminals, logged 8,000 police hours, and incurred monthly labor expenses of $448,000.

   a) (10 points) Compute the total variance, volume variance, price variance, and quantity variance for Gotham City's Police Department. Also indicate whether each variance was favorable or unfavorable.

*Original Budget = 2,400 * 3 * 50 = $360,000 [1]*
                              Volume Var = 120,000 [1] U [1/2]
*Flexible Budget = 3,200 * 3 * 50 = $480,000 [1]*
                              Quantity Var = 80,000 [1] F [1/2]
*Subcategory Budget = 3,200 * 2.5 * 50 = $400,000 [1]*
                              Rate Var = 48,000 [1]U [1/2]
*Actual Budget = 3,200 * 2.5* 56 = $448,000 [1]*
                              Total Var = 88,000 [1] U [1/2]

b) (3 points) Briefly explain what your variances mean, in plain language.

The Police total variance was caused by variances in all three inputs. The Volume Variance means the police had to process more criminals than expected (also, it is not controllable by management), and it represents the greatest variance and is unfavorable. [1] The police were able to process criminals quicker than budget, as evidenced by the favorable Quantity Variance. [1] But the officers also were paid much more than budget, causing a significant unfavorable Rate Variance. [1]

8.   (25 points) Centers for Bright Horizons (CBH) provide day care services to low-income families. CBH bills the State for its services under a service contract. Billings for the first four months of 2007 are anticipated to be as follows:

January	February	March	April
$220,000	$200,000	$240,000	$230,000

CBH finds that it collects 25% of the amounts billed in the month of service, with the balance collected in the month following service.

CBH is planning to acquire a new building as an additional site for its services in March 2007. The full $250,000 purchase cost of the building will be financed with a mortgage loan, with the first payment due in April 2007. CBH anticipates a February 28, 2007 cash balance of $26,000.

CBH anticipates the following expenses and disbursements for the month of March 2007:

Personnel Payments $170,000
Personnel Expenses $160,000
Payments to suppliers $ 45,000
Supplies Expense $ 48,000
Depreciation Expense $ 12,000
Interest Expense $ 6,000

(20 points) Prepare an operating budget and a cash budget for CBH for the month of March 2007.

Operating budget [1]	Cash budget [1]	First Alternative	Second Alternative
		First *Alternative*	*Second* *Alternative*
Revenue 240,000 [1]	Beginning Balance	26,000	26,000 [1]
	Cash Receipts		
Expenses	Collection from Feb. 150,000		150,000 [1]
Personnel 160,000 [1]	Collection from March 60,000		60,000 [1]
Supplies 48,000 [1]	Cash from mortgage 250,000		
Depreciation 12,000 [1]	Total Cash Receipts 460,000		210,000 [1]
Interest 6,000 [1]	Available Cash	486,000	236,000 [1]
	Cash Disbursement		
Total Expenses 226,000 [1]	Payroll payment 170,000		170,000 [1]
	Payment to suppliers 45,000		45,000 [1]
Surplus / (Deficit) 14,000 [2]	Payment for building 250,000		
	Total Disbursement 465,000		215,000 [1]
	Ending Balance 21,000		21,000 [2]

(5 points) Which budget gives a better indication of the organization's operational sustainability, the operating budget or the cash budget? Why?

Operating budget. **[2]** *Accrual basis* **[2]** *gives better indication of resource usage and earning, matches revenues and expenses whereas no matching in cash budget* **[1]***; better indicator of economic sustainability.*

9.   (8 points) City Hospital is considering establishing a childhood asthma center in the Bronx. The cost of purchasing and renovating the building is estimated at $2 million. The projected cash flows generated by the new asthma center over the next 5 years are:

Year	Cash In	Cash Out	Net Cash Flow
1	1,200,000	800,000	400,000
2	1,200,000	800,000	400,000
3	1,200,000	800,000	400,000
4	1,300,000	900,000	400,000
5	1,300,000	1,000,000	300,000

Assuming a 5-year useful life, zero salvage value, and an 8% cost of capital, evaluate from a financial perspective whether City Hospital should pursue this project.

PV of Annuity N =4, I = 8%, PMT = 400,000, PV = ? = 1,324,850.74 **[1]**

PV of Year 5   N = 5, I = 8%, FV = 300,000, PV = ? = 204,174.96 **[1]**

NPV = (2,000,000) **[1]** *+* **1,324,850.74 + 204,174.96** *= -470,974.30* **[1]**

City Hospital should NOT pursue this project since it results in a negative NPV. **[2]**

[1/2] for showing N
[1/2] for showing I

[1/2] for showing PMT
[1/2] for showing FV
OR [1] for showing process of calculating PV of each year (if calculated individually or by some other similar method)
If student gets all numbers correct with wrong signs and that leads to incorrect decision, 1 point off.

10.   (4points) Bills that have been sent out by an organization but not yet collected are referred to as_____*accounts receivable*____*[2]*_____. A(n) __*aging schedule*_____*[2]*_____ is a report for management that indicates how long these bills have been outstanding.

11. (2 points) Payables are amounts owed by an organization that have not yet been paid. Name two specific payables accounts.

Wages payable, notes payable, supplies payable, interest payable, taxes payable or any other category of expenses payable. A disbursement category is not acceptable **[1]** *for each*

12. (8 points) As a manager, you are tasked with cutting $100,000 from your department's budget next year. The department has $800,000 in personnel costs for staff, $150,000 of rent expenses, $125,000 of general administrative expenses allocated from the executive office, and $50,000 of miscellaneous office-supply expenses. The administrative expenses exist regardless of your department's size; if your department gives up office space, another department will take over the space and the cost.

List at least two cost-cutting measures you can adopt to save your organization (not just your department) $100,000?

You can cut staff or salaries **[3]***, or cut office supplies* **[3]** *and the organization will be better off. Otherwise, costs are just being shifted from your department to other departments. Or any other reasonable justification* **[2]***.*

Cannot cut any administrative or rent expenses

13. (3 points) The amount of the original cost of a capital asset allocated as an expense each year during its useful life is called:

i. an encumbrance
ii. appropriation
iii.   depreciation [3]
iv. recognition

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P11.1021: Financial Management - Midterm Examination
Professors Calabrese and Finkler - Spring 2006

Your Name: _____

Your Student ID: _____

Circle the day and time your class meets

Tuesday 12:30 PM   Tuesday 5:45 PM   Thursday 5:45 PM

Directions:
1) You may use one page of notes. Place all other materials on the floor.
   Print your initials at the top of each page.
2) You may use, but not share a calculator**. Remember to clear your calculator before each calculation (AC/ON).** If you do not, you may get wrong results.
3) Show all your work. We can only give you partial credit if you show how you approached the problem! You may round your answers to the nearest dollar.
   For the time-value-of-money computations show what information you used to calculate the answer. Do not just write down the final answer.
4) Hand in your exam plus all other papers (one page of notes).
5) The points for each question are indicated in parentheses next to the question.
6) Look through the exam before you begin.

Good Luck
===

This section for graders: **Points**   1 _____
                                                                 2 _____
                                                                 3 _____
                                                                 4 _____
                                                                 5 _____
                                                                 6 _____
                                                                 7 _____
                                                                 8 _____
                                                                 9 _____
                                                                 10 _____
                                                                 11_____

Total Points _____ X 40% = Course Points _____

SOLUTIONS

1

Numbers in Parentheses represent the possible points for that question

1. Select the best choice from the following to answer questions A through D: **(8 Points)**

      i.   Zero-Based
      ii.   Incremental
      iii.   Capital
      iv.   Flexible
      v.   Operating
      vi.   Cash
      vi.   Responsibility center
      vii.   Program

A.(2 points) If your boss at New York Assisted Living said "The budget seems pretty good but what would happen if we don't get an average of 200 residents

next year?" You would prepare a(n) _____ **flexible** _____ budget to answer her question.

B. (3 points) A(n) ____**capital** _____ budget reflects the long-lived resources that an organization intends to acquire during the budget year while a(n)

_____**operating**_____ budget reflects the expected cost of using those resources during that budget year.

C. (3 points) A(n) _____**operating or program**_____ budget recognizes revenue when the organization expects to earn revenues while a(n)

_____**cash**_____ budget recognizes revenues when the organization expects to collect them.

2. Doctors Beyond Borders (DBB) operates health programs around the world. It has a **central staff** of 100 people who administer its world-wide programs. DBB's central operation buys and distributes all of the supplies used in its various country operations. DBB's **country director** for Nigeria and **her staff** runs 20 clinics around the country. At the clinic level, **doctors and nurses** hired under two-year contracts, administer medical treatment free of charge to the local population. They use **supplies** shipped to them by DBB's central staff based on the number of patients treated at each clinic. **(10 points)**

        A. From the perspective of the program director for Nigeria, for the coming year which of the five categories (underlined in bold above) of expenses are: (Write the general category of the expenses next to the categories below.) **(8 points)**

a. Direct costs   **Country director, her staff, doctors and nurses, supplies (1/2 pt each)**

b. Indirect costs   **central staff (2 points)**

c. Fixed costs   **central staff, country director, her staff, doctors and nurses (1/2 pt each)**

d. Variable costs **supplies (2 points)**

        B. Which of the direct expenses for Nigeria would be classified as indirect from the perspective of a clinic director? **(2 points)**
               The country director and her staff

3. When determining costs, which of the following factors should <u>not</u> be taken into account? [<u>Circle all that apply</u>] **(2 points)**

     a. The cost objective
     b. The relevant time period
     c. The relevant range of volume
     d. What the information will be used for
     e. Who is measuring the cost
     f. Whether the person asking the question is inside or outside the organization

4. Answer the following questions about break-even analysis: **(14 points)**

A. (2 points) The contribution margin is equal to the difference between the

variable revenue, price or some similar answer and the

variable cost . **(1 point for each correct choice)**

B. Early-Development Child Center operates from Monday to Friday. The Center provides childcare and educational services for inner-city kids between the ages of three months and five years. It has fixed expenses of $36,000 per week and charges parents $10 per day for each child that attends the program. A city contract pays the center $30,000 per week. It costs the center $3 per day for supplies and snacks for each child. The Center also offers an optional early-reading program for children over the age of three. Parents pay an additional $3 per day to enroll a child in the reading program. It costs the center an additional $5 per day for each child in the program. Thirty percent of the children attending the center are enrolled in the reading program. How many <u>whole</u> children have to come to the Center <u>each week</u> for it to at least break even? (10 points)

BEQ = (FC-City revenue)/(Weighted VR – Weighted VC) **or**

BEQ = (FC-City revenue)/(Weighted CM)

	Base	Reading				
Daily Price	$10.00	$3.00				
Daily VC	$3.00	$5.00				
Days per week	5					
Fixed Costs	$36,000					
City Contract	$30,000					
		Weekly	Weekly	Weekly	Weekly	
	Mix	Price	VC	CM	Weighted CM	
non reading	70.0%	$50.00	$15.00	$35.00	$24.50	
reading	30.0%	$65.00	$40.00	$25.00	$7.50	
Total Weighted CM					$32.00	
Break Even	**188**					

Daily calculation leads to same result. Multiply daily WACM x 5 to get $32.00 as above.

Mix	Daily Price	Daily VC	Daily CM	Daily Weighted CM
70%	$10.00	$3.00	$7.00	$4.90
30%	$13.00	$8.00	$5.00	$1.50
				$6.40

C. If the percentage of children in the reading program rises from 30% to 35%, the break-even level? (Circle the correct answer.) (2 points)

    i.   **increases**

    ii.   decreases

    iii.   stays the same

5. Answer the following two questions about the time-value-of-money using the following choices:
(4 points)

      i.   the net present value
      ii.   the net present cost
      iii.   the internal rate of return
      iv.   the annualized cost
      v.   an annuity

    A. (2 points) The rate of return that sets the present value of a stream of cash inflows
      equal to the present value of a stream of cash outflows is called?

        iii.   **the internal rate of return**

    B. (2 points) If you are asked to select between two alternative pieces of equipment

      with different useful lives that the organization needs to carry on its operations q
      but do not generate any positive cash flows, you would compare their

      _____**iv. annualized costs**_____

6. The University Center for Student Life is trying to decide whether it should invest in a fast-food court.
The cost of setting up the court and attracting nationally-known vendors is estimated at $200,000.
Annual maintenance and cleaning costs are estimated at $15,000

 Each of the five vendors selected to operate concessions in the food court will pay the university
$20,000 per year plus 2.25% of their gross revenues. Gross revenues will depend on student use. Based
on what has happened at other schools with food courts, the director of the center thinks that each
enrolled student will spend an average of $200 per year in the food court.

 On average, the university enrolls 10,000 students. The managers of the Student Life Center expect the
food court to last five years before they will have to start the whole process over again. If the university
has a cost of capital of 12%, should they build the food court?   **(12 points)**

    The university should invest in the food court. The NPV is greater than 0.

Time period:	0	1	2	3	4	5
Investment	-200000					
Maintenance		-15000	-15000	-15000	-15000	-15000
Base rent 20000 x 5		100000	100000	100000	100000	100000
Concession revenue						
2.25% x $200 x 10,000	_____	45000	45000	45000	45000	45000
Net Cash Flow	-200000	130000	130000	130000	130000	130000
Present value	-200000	$116,071.43	$103,635.20	$92,531.43	$82,617.35	$73,765.49

Net Present Value $268,620.91
      NPV(12%, 116071.43, 103635.20, 92531.43, 82617.35, 73765.49) - 200000

7. Answer the following questions about managing short-term resources and obligations: **(6 points)**

A. (2 points) Which of the following information is typically included on an accounts-receivable aging schedule?

      i.   the total amount owed to the organization

      ii.   the percentage of the total amount owed that has been outstanding for less than thirty days

      iii.   a breakdown of the amounts owed by customer or major customer categories

      iv.   i and iii

      v.   i and ii

      vi.   **i, ii, iii**

B. (2 points) Amounts that an organization owes to its suppliers, but has not yet paid, are referred to as: (circle the correct answer)

    i.   accounts receivable

    ii.   bad debts

    iii.   **accounts payable**

    iv.   accrued expenses

C. (2 points) An inventory management system that <u>continuously</u> tracks inventory is

said to be using the _____? (Circle the correct answer)

    i.   **perpetual method**

    ii.   periodic method

    iii.   warehouse-control method

    iv.   short-term method

    v.   just-in-time method

8. Kids Hospital's (Kids) outpatient clinics expected to treat 3,000 different children during 2006 and expected to receive $112 per visit. It expected each child to make three visits during the year. Their budget calls for the use of $68 in supplies per visit. Supplies are Kids' only variable expense. The activity reports for 2006 showed that 3,400 children visited the clinics an average of 2.9 times each. Per- visit revenues averaged $120 and supply costs were $70 per visit. **(9 points)**

    i.   What is their total revenue variance? Is the variance favorable or unfavorable? Why? **(4 points)**

    ii.   What is their total expense variance? Is the total expense variance favorable or unfavorable? Why? **(4 points)**

    iii.   Was the net impact of the two variances helpful or harmful to the economic health of the organization? Why? **(1 point)**

	Budgeted Revenue	Actual Revenue	Revenue Variance	Budgeted Expenses	Actual Expenses	Expense Variance
Volume	3,000	3,400		3,000	3,400	
Visits	3	2.9		3	2.9	
Price/Cost per visit	$112.00	$120.00		$68.00	$70.00	
Total	$1,008,000	$1,183,200	$175,200	$612,000	$690,200	$78,200
			F			U
Net Variance	$97,000					
Kids better off financially						

i. The revenue variance is favorable because actual revenues were higher than what was budgeted

ii. The expense variance is unfavorable because actual expenses were higher than what was budgeted

iii. The net impact of the revenue and expense variances was good for Kids. Their Surplus went up by $97,000

9. Kids Hospital needs to raise $100 million to pay for a new addition to its children's rehabilitation unit. Kids planned to sell an issue of 20-year bonds that will pay interest twice each year with a coupon rate of interest of 6.25%. Between the time they printed the bonds with the 6.25% coupon rate and the date they were sold, interest rates rose from 6.25% to 6.5%. (10 points)

A. How much will they receive when they issue the bonds? (8 points)

B. Suppose there were no coupon rate at all. With a zero coupon bond, no interest payments are made during the life of the bond, although out of tradition, interest is assumed to compound twice a year. The face value of the bond is paid at maturity. Let's say this is a $100,000,000 zero coupon bond, issued when the market rate is 6.5%. How much will Kids receive when they issue the bond? (2 points)

Part A: **N= 20 years remaining * 2 payments per year = 40**
I = 6.5% /2 compounding periods per year = 3.25%
Payment = $3,125,000 = 6.25%/2 * $100,000,000
Future Value = $100,000,000
Find the PV of the annuity formed by the coupon = 69,401,353.85
Find the PV of the repayment of the $100 million = 27,822,591.98
Add the two = 97,223,945.85   **OR**

It is not necessary to show both parts of the valuation. The problem can also be solved in one step with the calculator.
     Payment = $3,125,000
     I = 6.5/2
     N = 40
     FV = $100,000,000
     PV = ??? = 97,223,945.85

Part B: **This is a simple PV problem.**

     6.5% /2 = 3.25%
     i=3.25
     n = 40
     FV = 100,000,000
     PV = ???? = $27,822,591.88

10. (20 points) You are the Field Director for the International Rescue Committee's (IRC) West African food-relief effort. IRC's executive director in New York has asked you to prepare a <u>monthly</u> operating budget based on feeding 15,000 people per day as well as a flexible budget based on a 30% increase in the number of people will have to feed each day.

Your field operation has three full-time employees. A Field Director, who earns $48,000 per <u>year</u>, a Security Chief, earning $30,000 per <u>year</u>, and a Field Manager, who earns $24,000 per <u>year</u>. IRC spends an additional 25% of each IRC employee's annual salary to pay for the cost of health insurance and retirement benefits.

To operate the ten feeding sites under your control, you have a fleet of trucks. The trucks deliver food and cooking fuel to the remote feeding sites. You estimate it takes one truck to service every 500 people you feed each month. It costs you $2,600 to pay for the fuel, drivers, rental and maintenance it takes to operate one truck for one month. Depreciation on your building and other equipment adds an additional $14,000 to your monthly expenses.

Direct costs for food are $3.95 per person per day. The Western Nations Alliance has agreed to pay you $4.10 per day for each person you feed. For budgeting purposes, assume there are 30 days in a month. Finally, the Soaring Foundation has pledged $50,000 per month to support the West African Relief effort.

Prepare an operating budget for one month and also a flexible budget for that month reflecting an increase of 30% in the number of people you feed.

People Fed		15,000	19,500
Trucks	# people / 500	30	39
Revenue and Support		**Base**	**+ 30%**
Revenue (variable)	# people * $4.10 * 30 days	$1,845,000	$2,398,500
Soaring Grant (fixed)	given in the problem	$50,000	$50,000
Total Revenue and Support		$1,895,000	$2,448,500
Expenses			
IRC Staff Salaries (fixed)	(48000+30000+24000)/12	$8,500	$8,500
IRC Benefits (fixed)	25% * salaries	$2,125	$2,125
Food (variable)	# people * $3.95 * 30 days	$1,777,500	$2,310,750
Trucking Costs (step fixed)	# people/500 * $2,600	$78,000	$101,400
Depreciation (fixed)	given in the problem	$14,000	$14,000
Total Expenses		$1,880,125	$2,436,775
Surplus/(Defecit)		$14,875	$11,725

11. (5 points) You are the executive director of a community service agency in the south Bronx. You operation is funded through a combination of cash contributions, federal government grants and city contracts. Your revenue budget for fiscal year 2006 is as shown below.

You know from past experience that not all of your revenue and support is collected when you earn it. Cash contributions are collected in the quarter they are pledged. Federal government grants are collected one quarter after you send the granting agency a bill. The city pays 25% of what it owes you one quarter after you send in the bill. An additional 25% is collected from the city in two quarters and the remaining fifty-percent takes three quarters to collect.

Starting with the revenue budget below, calculate the amount you can expect to collect in the **fourth quarter** of fiscal year 2006.

Revenue Budget for Fiscal Year 2006

Source of Revenue	Q 1	Q 2	Q 3	Q 4
Contributions	$25,000	$35,000	$35,000	$50,000
Federal Grants	$250,000	$375,000	$350,000	$250,000
City Contracts	$240,000	$300,000	$320,000	$360,000
Total	$515,000	$710,000	$705,000	$660,000

SOLUTION

Fourth Quarter Collections	From Q 1 Revenues	From Q 2 Revenues	From Q 3 Revenues	From Q 4 Revenues	Total Q 4 Collections
Contributions				$50,000	$50,000
FederalGrants			$350,000		$350,000
City Contracts	$120,000	$75,000	$80,000		$275,000
Total					$675,000