Donursing Calculations 9th Edition Pickar Test Bank

Chapter 2—Ratios, Percents, Simple Equations, and Ratio-Proportion

PROBLEM

	Decimal	Fraction	Percent	Ratio
1.	0.05			
2.		$\frac{1}{8}$		
3.			45%	
4.				3:10

1. Complete row 1 in the table above.

   ANS:
   $\frac{1}{20}$, 5% , 1:20

   PTS: 1   DIF: Application   REF: Ratios and Percents

2. Complete row 2 in the table above.

   ANS:
   0.125, 12.5%, 1:8

   PTS: 1   DIF: Application   REF: Ratios and Percents

3. Complete row 3 in the table above.

   ANS:
   0.45, $\frac{9}{20}$, 9:20

   PTS: 1   DIF: Application   REF: Ratios and Percents

4. Complete row 4 in the table above.

   ANS:
   0.3, $\frac{3}{10}$, 30%

   PTS: 1   DIF: Application   REF: Ratios and Percents

   Solve for X. Round answers to two decimal places.

5. $\frac{X}{5} = \frac{1}{8}$

ANS:

$$\frac{X}{5} = \frac{1}{8}$$

$$8X = 5$$

$$\frac{8X}{8} = \frac{5}{8}$$

$$X = \frac{5}{8}$$

Change $\frac{5}{8}$ to a decimal:

$$\begin{array}{r} 0.625 \\ 8\overline{)5.000} \\ 48 \\ \hline 20 \\ 16 \\ \hline 40 \end{array}$$

Rounded to two decimal places, X = 0.63

PTS: 1   DIF: Application   REF: Solving Simple Equations for X

6. $\dfrac{\frac{1}{6}}{\frac{1}{4}} \times 10 = X$

ANS:

$$\frac{\frac{1}{6}}{\frac{1}{4}} \times 10 = X$$

$$\left(\frac{1}{6} \div \frac{1}{4}\right) \times 10 = X$$

$$\left(\frac{1}{\cancel{6}_3} \times \frac{\cancel{4}^2}{1}\right) \times 10 = X$$

$$\frac{2}{3} \times \frac{10}{1} = X$$

$$\frac{20}{3} = X$$

$$X = 6\frac{2}{3}$$

Change $6\frac{2}{3}$ to a decimal:

$$6\frac{2}{3} = \frac{20}{3}$$

$$\begin{array}{r} 6.666 \\ 3\overline{)20.000} \\ 18 \\ \hline 20 \\ 18 \\ \hline 20 \\ 18 \\ \hline 20 \end{array}$$

Rounded to two decimal places, X = 6.67

PTS: 1   DIF: Application   REF: Solving Simple Equations for X

Compute the answers for the following word problems.

7. A class of students consists of 9 men and 51 women. Write a proper fraction to represent the part of the total class that is women. Reduce the fraction. Change the fraction to a percent.

Reduced fraction: _____   Percent: _____

ANS:

There are 51 women in the class of 60 students.

$$\frac{51}{60} = \frac{17}{20}; \quad \frac{17}{20} = \frac{85}{100} = 85\%$$

PTS: 1   DIF: Application   REF: Ratios and Percents

8. A student received a score of 48 points on a test that was worth 60 points. Write a fraction to represent the portion of the test the student had answered correctly. Reduce the fraction. Change the fraction to a percent.

Reduced fraction: _____   Percent: _____

ANS:

$$\frac{48}{60} = \frac{4}{5}; \quad \frac{4}{5} = \frac{80}{100} = 80\%$$

PTS: 1   DIF: Application   REF: Ratios and Percents

9. In order to pass a chapter test, a student must answer 80% or more of the questions correctly. If a chapter test has 25 questions, what is the smallest number of questions that the student must answer correctly in order to pass the test?

ANS:
At least 80% of 25 questions must be answered correctly.

$$80\% \times 25 = 0.8 \times 25 = 20$$

The student must answer at least 20 questions correctly.

PTS: 1   DIF: Application   REF: Ratios and Percents

10. In order to pass a unit test, a student must answer 80% or more of the questions correctly. If a unit test has 75 questions, what is the largest number of questions that the student could answer incorrectly, but still pass the unit test?

ANS:
At least 80% of 75 questions must be answered correctly.

$$80\% \text{ of } 75 = 0.8 \times 75 = 60$$

At least 60 questions must be answered correctly.

$$75 - 60 = 15$$

The largest number of questions that the student could answer incorrectly, but still pass the test, is 15 questions.

PTS: 1   DIF: Application   REF: Ratios and Percents

11. Change the following ratio to a fraction. Reduce to lowest terms.

$3:6$

ANS:

$3:6 = \dfrac{3}{60} = \dfrac{1}{2}$

PTS: 1 DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

12. Change the following ratio to a fraction. Reduce to the lowest term.

$5:35$

ANS:

$5:35 = \dfrac{5}{35} = \dfrac{1}{7}$

PTS: 1 DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

13. Change the following ratio to a decimal. Round to the hundredths place.

$3:7$

ANS:

$3:7 = \dfrac{3}{7} = 0.428 = 0.43$

PTS: 1 DIF: Analysis
REF: Converting among Ratios, Percents, Fractions, and Decimals

14. Change the following ratio to a decimal. Reduce to the hundredths place.

$0.26:0.92$

ANS:

$0.26:0.92 = \dfrac{26}{92} = 0.282 = 0.28$

PTS: 1 DIF: Application
REF: Converting among Ratios, Percents, Fractions, and Decimals

15. Change the following ratio to a decimal. Round to the hundredths place.

$1.4:2.8$

ANS:

$1.4:2.8 = \dfrac{14}{28} = 0.5$

PTS: 1 DIF: Application
REF: Converting among Ratios, Percents, Fractions, and Decimals

16. Change the following ratio to a percent. Round to the hundredths place.

    3 : 6

    ANS:

    $3 : 6 = \dfrac{3}{6} = 0.5 = 0.50 = 50\%$

    PTS: 1   DIF: Application
    REF: Converting among Ratios, Percents, Fractions, and Decimals

17. Change the following ratio to a percent. Round to the hundredths place.

    0.7 : 2.8

    ANS:

    $0.7 : 2.8 = \dfrac{7}{28} = 0.25 = 25\ \%$

    PTS: 1   DIF: Application
    REF: Converting among Ratios, Percents, Fractions, and Decimals

18. Solve the following problem for X.

    $\dfrac{X}{6} = \dfrac{8}{0.4}$

    ANS:

    $\dfrac{X}{6} = \dfrac{8}{0.4} = 48 = 0.4X = \dfrac{48}{0.4} = \dfrac{0.4X}{0.4} = 120$

    $X = 120$

    PTS: 1   DIF: Application   REF: Solving Simple Equations for X

19. Upon admission to the hospital, a child weighed 62 lb. One week later, upon discharge, the child weighed $57\dfrac{1}{2}$ lb. How much weight did the child lose?

    ANS:
    $62 - 57.5 = X$

    $X = 4.5$ lb

    PTS: 1   DIF: Application   REF: Solving Simple Equations for X

20. A client is to receive 1,800 mL of fluid during a 24-hour period. The client is to receive $\dfrac{3}{4}$ of the fluid between 7 AM and 10 PM. Calculate how many mL the client will drink during that time.

    ANS:

$$1,800 \times \frac{3}{4} = \frac{5,400}{4} = 1,350 \text{mL}$$

PTS: 1 DIF: Application REF: Solving Simple Equations for X

Determine what % one number is of another number.

21. 30 is what % of 100?

    ANS:
    $$\frac{30}{100} = 0.3 = 30\%$$

    PTS: 1 DIF: Comprehension
    REF: Finding the Percentage of a Quantity

22. 5 is what % of 1,500?

    ANS:
    $$\frac{5}{1,500} = 0.00333 = 0.33\%$$

    PTS: 1 DIF: Comprehension
    REF: Finding the Percentage of a Quantity

23. 1 is what % of 100?

    ANS:
    $$\frac{1}{100} = 0.01 = 1\%$$

    PTS: 1 DIF: Comprehension
    REF: Finding the Percentage of a Quantity

24. Convert as indicated.

    $\frac{3}{4}$ written as a ratio.

    ANS:
    3 : 4

    PTS: 1 DIF: Comprehension REF: Ratios

25. Convert as indicated.

    $\frac{7}{8}$ written as a ratio.

    ANS:
    7 : 8

    PTS: 1 DIF: Comprehension REF: Ratios

26. Find the value of X in the following equation.

$$\frac{10}{500} = \frac{X}{75}$$

ANS:
750 = 500X

$$\frac{750}{500} = \frac{500X}{500}$$

$$\frac{750}{500} = X$$

$$1.5 = X$$

PTS: 1 DIF: Application REF: Solving Simple Equations for X

27. Convert the following % to a decimal.

66%

ANS:
$$66\% = \frac{66}{100} = 0.66$$

PTS: 1 DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

28. Convert the following % to a decimal.

5.25%

ANS:
$$5.25\% = \frac{525}{1,000} = 0.0525$$

PTS: 1 DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

29. Convert the following decimal to a percent.

0.04

ANS:
$$0.04 \times 100 = 4\%$$

PTS: 1 DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

30. Convert the following decimal to a percent.

0.0016

ANS:
0.0016 × 100 = 0.16%

PTS: 1   DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

31. Convert the following decimal to a percent.

0.99

ANS:
0.99 × 100 = 99%

PTS: 1   DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

32. Determine the percentage of a given number.

25% of 40

ANS:
0.25 × 40 = 10

PTS: 1   DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

33. Determine the percentage of a given number.

75% of 50

ANS:
0.75 × 50 = 37.5

PTS: 1   DIF: Comprehension
REF: Converting among Ratios, Percents, Fractions, and Decimals

34. Find the value of X in the following equation.

$$\frac{X}{4} = \frac{3}{24}$$

ANS:
$$\frac{X}{4} = \frac{3}{24}$$

24X = 12

X = -0.5

PTS: 1   DIF: Application   REF: Solving Simple Equations for X