

Chapter 2—Ratios and Percents

MULTIPLE CHOICE

1. A medical unit has 24 patients and 4 nurses to provide care. What is the patient to nurse ratio in lowest terms?
- 24:4
 - 6:1
 - 12:2
 - 18:3

ANS: B PTS: 1 REF: Pages 40-41 BLM: Higher Order

2. Which percentage is the equivalent of a 1:1000 epinephrine solution?
- 0.1%
 - 10%
 - 0.001%
 - 0.01%

ANS: A PTS: 1 REF: Page 42-43 BLM: Remember

3. Which intravenous solution has the lowest concentration?
- 5% dextrose in 0.45% saline
 - 5% dextrose in water
 - 0.9% normal saline
 - 0.45% normal saline

ANS: D PTS: 1 REF: Page 43-44 BLM: Higher Order

4. Which of the following is the strongest solution?
- 1:10
 - 1:50
 - 1:1
 - 1:25

ANS: C PTS: 1 REF: Page 43-44 BLM: Higher Order

5. What is 0.37% of 352?
- 0.10
 - 5.9
 - 9.5
 - 1.3

ANS: A PTS: 1 REF: Pages 45-46 BLM: Higher Order

SHORT ANSWER

1.

	Percent	Ratio
1.	45%	
2.		3:10

Complete row 1 in the table above.

ANS:

9:20

$$45\% = \frac{45}{100} = \frac{9}{20} = 9:20$$

PTS: 1

REF: Pages 43-44

2.

	Percent	Ratio
1.	45%	
2.		3:10

Complete row 2 in the table above.

ANS:

30%

$$3:10 = \frac{3}{10} = \frac{30}{100} = 30\%$$

PTS: 1

REF: Pages 43-44

3. 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:

17/20; 85%

There are 51 women and 9 men for a total of 60 students in the class..

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

PTS: 1

REF: Pages 42-43

4. 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 answered correctly. Reduce the fraction. Change the fraction to a percent.

Reduced fraction: _____

Percent: _____

ANS:

$\frac{4}{5}$; 80%

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

PTS: 1

REF: Pages 42-43

5. 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:

20

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

REF: Pages 45-46

6. 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:

15

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

REF: 45-46

7. Convert the following. Reduce fractions and ratios to the lowest term. Round decimals and percents to 3 decimal places (thousandths):

Decimal	Fraction	Percent	Ratio
0.125			

ANS:

1/8; 12.5%; 1:8

$$0.125 = \frac{125}{1000} = \frac{1}{8}$$

$$0.125 = \frac{12.5}{100} = 12.5\%$$

$$0.125 = \frac{125}{1000} = \frac{1}{8} = 1:8$$

PTS: 1

REF: Pages 42-43

8. Convert the following. Reduce fractions and ratios to the lowest term. Round decimals and percents to 3 decimal places (thousandths):

Decimal	Fraction	Percent	Ratio
		0.25%	

ANS:

0.0025; 1/400; 1:400

$$0.25\% = \frac{0.25}{100} = \frac{25}{10000} = 0.0025$$

$$0.25\% = \frac{0.25}{100} = \frac{25}{10000} = \frac{1}{400}$$

$$0.25\% = \frac{0.25}{100} = \frac{25}{10000} = \frac{1}{400} = 1:400$$

PTS: 1

REF: Pages 42-43