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**Cumulative Practice: Chapters 1-3**

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Evaluate each expression if  $a = 12$  and  $b = 5$ .

1.  $a + b$  \_\_\_\_\_      2.  $13 - a$  \_\_\_\_\_      3.  $7b$  \_\_\_\_\_ (Chap. 1)  
4.  $ab + 4$  \_\_\_\_\_      5.  $20 - a + b$  \_\_\_\_\_      6.  $3a + 2$  \_\_\_\_\_

Simplify.

7.  $37 + 14 + 23$  \_\_\_\_\_      8.  $26c \div 26$  \_\_\_\_\_  
9.  $(41 \times 9) - (21 \times 9)$  \_\_\_\_\_      10.  $x + 27 - x$  \_\_\_\_\_  
11.  $8 + 2 \times 20$  \_\_\_\_\_      12.  $(56 \div 7) + (10 \times 4)$  \_\_\_\_\_

Write an equation for each word sentence.

13. Eighteen less than a number  $n$  is twelve. \_\_\_\_\_ (Chap. 2)  
14. One more than twice a number  $x$  is nine. \_\_\_\_\_  
15. A number  $d$  divided by six is eighteen. \_\_\_\_\_  
16. Four times a number  $r$  is twelve more than the number. \_\_\_\_\_

Solve.

17.  $x - 16 = 21$  \_\_\_\_\_      18.  $24 \div y = 3$  \_\_\_\_\_  
19.  $9n + 15 = 15$  \_\_\_\_\_      20.  $5r - 1 = 99$  \_\_\_\_\_  
21.  $8m < 72$  \_\_\_\_\_

Write the number in expanded notation.

22. 216.45 \_\_\_\_\_ (Chap. 3)  
23. 93.017 \_\_\_\_\_

Estimate the answer. Then compute the answer.

24.  $91.05 + 8.926$  \_\_\_\_\_      25.  $17.2 - 3.614$  \_\_\_\_\_  
26.  $6.1 + 21.7 - 4.03$  \_\_\_\_\_      27.  $11.2 \times 9.05$  \_\_\_\_\_

## Cumulative Problem Solving Practice: *Chapters 1-3*

Solve.

1. Kim received a \$25 gift certificate to a clothing store. If she bought 3 pairs of socks at \$2 each and a blouse for \$21, how much did she pay above the gift certificate value? (Chap. 1)  
\_\_\_\_\_
2. Michael is putting photographs in an album. If each page holds 6 photos and he has 54 photos in all, how many pages will he fill? \_\_\_\_\_
3. At a sporting goods store, a sweatshirt costs twice as much as a pair of legwarmers. Jogging shoes cost \$12 more than the sweatshirt. If the legwarmers cost \$5, how much will all 3 items cost? \_\_\_\_\_
4. Three times a number is diminished by thirteen. The result equals the sum of twice the number and one. Find the number. (Chap. 2)  
\_\_\_\_\_
5. Pablo is saving quarters and dimes. If he has a total of \$11.05 and has 21 quarters, how many dimes does he have? \_\_\_\_\_
6. Donna worked four hours a day at a part-time job. If she worked 72 h one month, how many days did she work? \_\_\_\_\_
7. A cyclist rode 3.8 km on Monday, 5.2 km on Tuesday, and 4.7 km on Wednesday. What was the total number of kilometers traveled? (Chap. 3)  
\_\_\_\_\_
8. Fran bought a package of 12 pens for \$1.59. To the nearest cent, what was the cost of each pen? \_\_\_\_\_
9. A farm market is selling 3 lb of apples for \$1.35. At the same rate, what would 7 lb of apples cost? \_\_\_\_\_

## Cumulative Practice: Chapters 4-6

Exercises 1-4 refer to the box at the right.

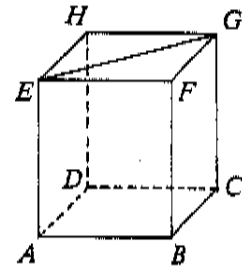
1. Name a segment parallel to  $\overline{HG}$ .
2. Name the plane containing  $\overleftrightarrow{FG}$  and  $\overleftrightarrow{BC}$ .
3. Name a pair of complementary angles.
4. Name the triangle congruent to  $\triangle EFG$ .

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



(Chap. 4)

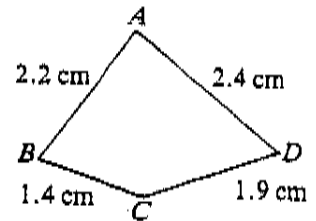
Exercises 5-7 refer to the figure at the right.

5. State the measure of  $\overline{BC}$  in millimeters.
6. Use a protractor to measure  $\angle ABC$ .
7. Find the perimeter of the figure.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



State whether or not the first number is a factor of the second. If it is a factor, also state the next larger factor.

- |                  |                   |                  |           |
|------------------|-------------------|------------------|-----------|
| 8. 9; 351 _____  | 9. 10; 5001 _____ | 10. 3; 332 _____ | (Chap. 5) |
| 11. 4; 368 _____ | 12. 5; 715 _____  | 13. 2; 823 _____ |           |

Evaluate each expression.

- |                  |                  |                       |
|------------------|------------------|-----------------------|
| 14. $13^2$ _____ | 15. $21^2$ _____ | 16. $1^2 + 4^2$ _____ |
|------------------|------------------|-----------------------|

Find the GCF and LCM of each pair of numbers.

- |                  |                  |                  |
|------------------|------------------|------------------|
| 17. 21, 28 _____ | 18. 15, 45 _____ | 19. 16, 20 _____ |
|------------------|------------------|------------------|

Replace the ? to make a true statement.

- |  |  |   |           |
|--|--|---|-----------|
| 20. $\frac{4}{11} = ? \times \frac{1}{11}$ _____ | 21. $\frac{2}{13} \times ? = \frac{4}{13}$ _____ | 22. $\frac{3}{17} = \frac{6}{?}$ _____  | (Chap. 6) |
| 23. $\frac{9}{33} = \frac{?}{11}$ _____          | 24. $\frac{49}{84} = \frac{7}{?}$ _____          | 25. $\frac{5}{14} = \frac{?}{70}$ _____ |           |

Arrange the numbers in each list in order from least to greatest.

- |  |  |
|--|--|
| 26. $\frac{5}{6}, 0.83, 0.\overline{83}$ _____ | 27. $0.\overline{18}, \frac{2}{11}, 0.181$ _____ |
|--|--|

## Cumulative Problem Solving Practice: *Chapters 4-6*

Solve.

1. A rectangular picture frame has dimensions 163 mm by 104 mm. Find its perimeter in centimeters. (Chap. 4)  
\_\_\_\_\_
2. A regular pentagon has perimeter 70 m. How long is each side? \_\_\_\_\_
3. A circular mirror has a radius of 23 cm. Using  $\pi \approx 3.14$ , find its circumference. \_\_\_\_\_
4. A volunteer baked 141 cookies for the school fair. Can the cookies be divided evenly among 3 booths? If so, how many will each booth receive? (Chap. 5)  
\_\_\_\_\_
5. A mason built a patio of square tiles. If the patio was 9 tiles long and 9 tiles wide, how many tiles did he use in all? \_\_\_\_\_
6. A seamstress has 2 pieces of lace measuring 45 in. and 54 in. She wishes to cut pieces of equal length, having the pieces as long as possible with no waste. How long should each piece be? \_\_\_\_\_
7. A chemist has 25 oz of acid. If she wishes to use 3 oz at once and divide the rest equally among 3 flasks, how much will each flask contain? (Express the answer as a mixed number in simple form.) (Chap. 6)  
\_\_\_\_\_
8. A pollster found that in March, 17 out of 20 people favored Proposition A. In June, 19 out of 25 people favored the proposition. Was the proposition more popular or less popular in June? \_\_\_\_\_
9. Mike answered 66 out of 75 questions correctly. Change Mike's score from the fraction  $\frac{66}{75}$  to a decimal. \_\_\_\_\_

## Cumulative Practice: Chapters 7-9

Add or subtract. Simplify.

1.  $\frac{4}{9} + \frac{8}{9}$  \_\_\_\_\_      2.  $\frac{7}{8} - \frac{5}{12}$  \_\_\_\_\_      3.  $3\frac{2}{9} + 6\frac{5}{6}$  \_\_\_\_\_ (Chap. 7)

Multiply or divide. Simplify.

4.  $\frac{3}{4} \times \frac{16}{21}$  \_\_\_\_\_      5.  $\frac{16}{25} \div \frac{14}{15}$  \_\_\_\_\_      6.  $8 \times 4\frac{3}{4}$  \_\_\_\_\_

Express each ratio in lowest terms.

7. 45 min to 4 h \_\_\_\_\_      8. 75 cm : 3 m \_\_\_\_\_      9. 3 days : 15 h \_\_\_\_\_

Solve.

10.  $\frac{18}{a} = \frac{3}{5}$  \_\_\_\_\_      11.  $\frac{4}{7} = \frac{3}{y}$  \_\_\_\_\_      12.  $\frac{b}{24} = \frac{3}{18}$  \_\_\_\_\_

Solve each equation.

13.  $\frac{m}{1.6} = 2.5$  \_\_\_\_\_      14.  $\frac{4}{9}x = 14$  \_\_\_\_\_      15.  $7n + 13 = 76$  \_\_\_\_\_ (Chap. 8)

Express as a fraction in lowest terms or as a mixed number in simple form.

16. 84% \_\_\_\_\_      17. 190% \_\_\_\_\_      18. 325% \_\_\_\_\_ (Chap. 9)

Express as a percent.

19.  $\frac{13}{20}$  \_\_\_\_\_      20.  $1\frac{5}{8}$  \_\_\_\_\_      21. 0.073 \_\_\_\_\_

Express as a decimal.

22. 41.6% \_\_\_\_\_      23. 127% \_\_\_\_\_      24. 0.68% \_\_\_\_\_

Answer each question.

25. What percent of 32 is 80? \_\_\_\_\_      26. 24% of what number is 18? \_\_\_\_\_

## Cumulative Problem Solving Practice: *Chapters 7-9*

Solve.

1. Carlo has 2 cups of flour. He needs  $\frac{3}{4}$  cup for one recipe,  $\frac{1}{8}$  cup for a second, and  $1\frac{1}{3}$  cups for a third. Does he have enough flour? \_\_\_\_\_ (Chap. 7)
2. The ratio of adults to children attending a new exhibit at the museum was found to be 7:3. Based on this ratio, if 370 attended one day, how many would be children? \_\_\_\_\_
3. On a map, 2 cm represents 500 km. If two cities are 375 km apart, what is the distance between them on the map? \_\_\_\_\_
4. Julie has 300 in. of trim for a rectangular tablecloth she is making. If the tablecloth must be 90 in. long, how wide can it be if all the trim is to be used? \_\_\_\_\_ (Chap. 8)
5. Two thirds of the freshman class voted in the school election. If 87 freshmen did not vote, how large is the freshman class? \_\_\_\_\_
6. A square garden measuring 5 ft on a side is expanded to a new perimeter of 30 ft. If each side was lengthened equally, how much longer is each side? \_\_\_\_\_
7. During a store-wide 30%-off sale, a pair of boots sold for \$31.50. What was the original price? \_\_\_\_\_ (Chap. 9)
8. As a real estate agent, Henry Washington earns a 6.5% commission. If he earned \$5980 on a recent house sale, what was the selling price of the house? \_\_\_\_\_
9. The simple interest on a loan of \$3480 for  $2\frac{1}{2}$  years is \$826.50. What is the annual rate of interest? \_\_\_\_\_
10. Krista Ericson invests \$4200 at 9%, compounded monthly. What is her investment worth at the end of 3 months? \_\_\_\_\_

NAME \_\_\_\_\_

DATE \_\_\_\_\_

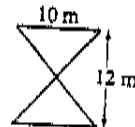
## Cumulative Practice: Chapters 10-12

Find the area of each figure described or pictured.

1. Parallelogram  
base: 8.6 m  
height: 4.2 m

2. trapezoid  
bases: 9 cm and 11 cm  
height: 4.3 cm

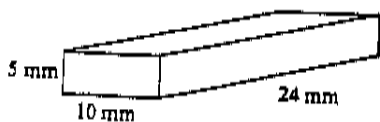
3.



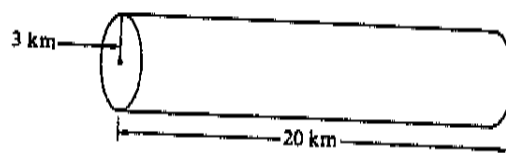
(Chap. 10)

Find the volume and total surface area of each solid. Use  $\pi \approx 3.14$ .

4.



5.



Perform the indicated operation.

6.  $-14 + 9$  \_\_\_\_\_

7.  $-13 + -8$  \_\_\_\_\_

8.  $4 - -7$  \_\_\_\_\_

(Chap. 11)

9.  $-480 \div 32$  \_\_\_\_\_

10.  $-841 \div -29$  \_\_\_\_\_

11.  $-2 \times -7 \times -9$  \_\_\_\_\_

Solve each equation.

12.  $x - -4 = 16$  \_\_\_\_\_

13.  $-7y = 84$  \_\_\_\_\_

14.  $2w + 7 = -3$  \_\_\_\_\_

Complete each ordered pair for the equation  $y = 2x - 1$ .

15.  $(-2, \underline{\quad})$

16.  $(-1, \underline{\quad})$

17.  $(0, \underline{\quad})$

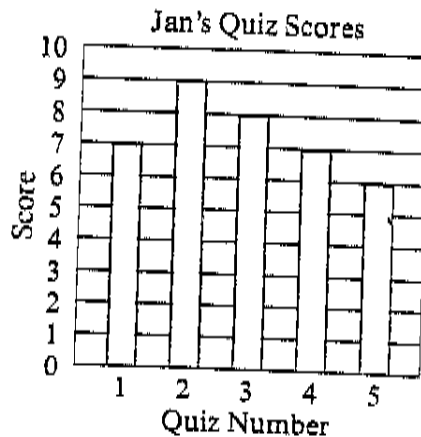
18.  $(1, \underline{\quad})$

Use the bar graph shown for exercises 19-21.

19. On which quiz did Jan score highest? \_\_\_\_\_

20. The mean of the scores is \_\_\_\_\_.

21. Which score has the highest frequency? \_\_\_\_\_



(Chap. 12)

**Cumulative Problem Solving Practice: Chapters 10-12**

Solve. Use  $\pi \approx 3.14$ .

1. A circular flower bed 3 ft in diameter sits in the center of a square patio 10 ft on each side. What is the area of the patio, excluding the flower bed? (Chap. 10)

\_\_\_\_\_

2. A fish tank is 40 cm long, 25 cm wide, and 15 cm deep. What is the volume of water in the tank when it is three-quarters full?

\_\_\_\_\_

3. A chemist's graduated cylinder has a diameter of 2.6 cm and a height of 19 cm. Find its capacity in milliliters.

\_\_\_\_\_

4. A hiking club had 26 members in 1980. In the next three years they lost 4 members, gained 6, and lost 3. How many members did the club have in 1983? (Chap. 11)

\_\_\_\_\_

5. A ship's anchor was dropped from a height of 1.4 m above the water to a depth of 10.8 m. How far did the anchor drop?

\_\_\_\_\_

6. Sandy lost, on the average, 2 lb each week for 5 weeks. If Sandy weighed 156 lb at the start of his diet, what did he weigh after 5 weeks?

\_\_\_\_\_

7. A jogger ran 3.2 km on Monday, 4.6 km on Tuesday, and 4.2 km on Wednesday. How far must she run on Thursday to achieve a 4-day average of 4 km? (Chap. 12)

\_\_\_\_\_

8. The people attending the Rodak family picnic had the following ages: 15, 39, 37, 3, 5, 26, 28, 62, 58, 41, 28, 18, 25, and 7. What was the median age?

\_\_\_\_\_

9. A jar contains 6 red marbles, 8 green marbles, 4 white marbles, and 3 black marbles. What are the odds in favor of randomly selecting a white marble?

\_\_\_\_\_

**6<sup>th</sup> Grade Geometry Formula Study Guide**

Name \_\_\_\_\_

Give the formula for the following:

2. Area of a Triangle \_\_\_\_\_

3. Area of a Trapezoid \_\_\_\_\_

4. Area of a Circle \_\_\_\_\_

5. Circumference of a Circle \_\_\_\_\_

6. Why do we use symmetry in finding areas of irregular figures?  
\_\_\_\_\_

Give the formulas for the following:

7. Volume of a Prism \_\_\_\_\_

8. Define prism: \_\_\_\_\_

9. Volume of a Cylinder \_\_\_\_\_

10. How do you find the surface area of a prism or cylinder?  
\_\_\_\_\_

11. Give the formula for mass: \_\_\_\_\_

12. 1 kg = \_\_\_\_\_ g      1 t = \_\_\_\_\_ kg

1 L = \_\_\_\_\_ cm-cubed    1 mL = \_\_\_\_\_ cm-cubed

13. Give formula for density of an object: \_\_\_\_\_

NAME \_\_\_\_\_ DATE \_\_\_\_\_

**Cumulative Practice: Chapters 1-3**

Evaluate each expression if  $a = 12$  and  $b = 5$ .

1.  $a + b$  17      2.  $13 - a$  1      3.  $7b$  35      (Chap. 1)

4.  $ab + 4$  64      5.  $20 - a + b$  13      6.  $3a + 2$  38

Simplify.

7.  $37 + 14 + 23$  74      8.  $26c \div 26$   $c = 1$

9.  $(41 \times 9) - (21 \times 9)$  180      10.  $x + 27 - x$  27

11.  $8 + 2 \times 20$  48      12.  $(56 \div 7) + (10 \times 4)$  48

*pp 15, 20, 21*

Write an equation for each word sentence.

13. Eighteen less than a number  $n$  is twelve.  $n - 18 = 12$       (Chap. 2)

14. One more than twice a number  $x$  is nine.  $2x + 1 = 9$

15. A number  $d$  divided by six is eighteen.  $d \div 6 = 18$

16. Four times a number  $r$  is twelve more than the number.  $4r = r + 12$

Solve.

17.  $x - 16 = 21$  37      18.  $24 \div y = 3$  8

19.  $9n + 15 = 15$  0      20.  $5r - 1 = 99$  20

21.  $8m < 72$  any number less than 9.

Write the number in expanded notation.

22. 216.45  $2(10^2) + 1(10) + 6 + 4(0.1) + 5(0.01)$       (Chap. 3)

23. 93.017  $9(10) + 3 + 1(0.01) + 7(0.001)$

Estimate the answer. Then compute the answer.

24.  $91.05 + 8.926$  100; 99.976      25.  $17.2 - 3.614$  13; 13.586

26.  $6.1 + 21.7 - 4.03$  24; 23.77      27.  $11.2 \times 9.05$  99; 101.36

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Cumulative Problem Solving Practice: Chapters 1-3**

Solve.

1. Kim received a \$25 gift certificate to a clothing store. If she bought 3 pairs of socks at \$2 each and a blouse for \$21, how much did she pay above the gift certificate value? \$ 2      (Chap. 1)

2. Michael is putting photographs in an album. If each page holds 6 photos and he has 54 photos in all, how many pages will he fill? 9 pages

3. At a sporting goods store, a sweatshirt costs twice as much as a pair of legwarmers. Jogging shoes cost \$12 more than the sweatshirt. If the legwarmers cost \$5, how much will all 3 items cost? \$ 37

4. Three times a number is diminished by thirteen. The result equals the sum of twice the number and one. Find the number. 14      (Chap. 2)

5. Pablo is saving quarters and dimes. If he has a total of \$11.05 and has 21 quarters, how many dimes does he have? 58 dimes

6. Donna worked four hours a day at a part-time job. If she worked 72 h one month, how many days did she work? 18 days

7. A cyclist rode 3.8 km on Monday, 5.2 km on Tuesday, and 4.7 km on Wednesday. What was the total number of kilometers traveled? 13.7 km      (Chap. 3)

8. Fran bought a package of 12 pens for \$1.59. To the nearest cent, what was the cost of each pen? 13¢

9. A farm market is selling 3 lb of apples for \$1.35. At the same rate, what would 7 lb of apples cost? \$ 3.15

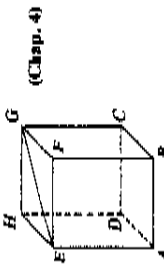
NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Cumulative Practice: Chapters 4-6**

Exercises 1-4 refer to the box at the right.

1. Name a segment parallel to  $\overline{HG}$ .  $\overline{AB}$ ,  $\overline{DC}$ , or  $\overline{EF}$
2. Name the plane containing  $\overline{FG}$  and  $\overline{BC}$ . plane  $\overline{BCGF}$
3. Name a pair of complementary angles. See below.
4. Name the triangle congruent to  $\triangle EFG$ .  $\triangle GHE$

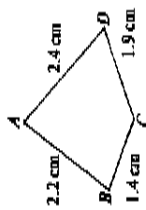


(Chap. 4)

3.  $\angle GEF$  and  $\angle FGE$ ;  $\angle HES$  and  $\angle HGE$ ;  $\angle HES$  and  $\angle GEF$ ;  $\angle HGE$  and  $\angle EGF$

Exercises 5-7 refer to the figure at the right.

5. State the measure of  $\overline{BC}$  in millimeters. 14 mm
6. Use a protractor to measure  $\angle ABC$ .  $70^\circ$
7. Find the perimeter of the figure. 7.9 cm



State whether or not the first number is a factor of the second. If it is a factor, also state the next larger factor.

8. 9; 351 yes; 13    9. 10; 5001 no    10. 3; 332 no    (Chap. 5)
11. 4; 368 yes; 8    12. 5; 715 yes; 11    13. 2; 823 no

Evaluate each expression.

14.  $13^2$  169    15.  $21^2$  441    16.  $1^2 + 4^2$  17

Find the GCF and LCM of each pair of numbers.

17. 21, 28 7, 84    18. 15, 45 15, 45    19. 16, 20 4, 80

Replace the ? to make a true statement.

20.  $\frac{4}{11} = ? \times \frac{1}{11}$  4    21.  $\frac{2}{13} \times ? = \frac{4}{13}$  2    22.  $\frac{3}{17} = \frac{6}{?}$  34    (Chap. 6)
23.  $\frac{9}{33} = \frac{?}{11}$  3    24.  $\frac{49}{84} = \frac{7}{?}$  12    25.  $\frac{5}{14} = \frac{?}{70}$  25

Arrange the numbers in each list in order from least to greatest.

26.  $\frac{5}{6}$ , 0.83, 0.83  $\frac{5}{6}$ , 0.83, 0.83    27. 0.18,  $\frac{2}{11}$ , 0.181 0.181,  $\frac{2}{11}$ , 0.18

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NAME \_\_\_\_\_

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**Cumulative Problem Solving Practice: Chapters 4-6**

Solve.

1. A rectangular picture frame has dimensions 163 mm by 104 mm. Find its perimeter in centimeters. 53.4 cm    (Chap. 4)
2. A regular pentagon has perimeter 70 in. How long is each side? 14 in
3. A circular mirror has a radius of 23 cm. Using  $\pi \approx 3.14$ , find its circumference. 144.44 cm
4. A volunteer baked 141 cookies for the school fair. Can the cookies be divided evenly among 3 booths? If so, how many will each booth receive? yes; 47    (Chap. 5)
5. A mason built a patio of square tiles. If the patio was 9 tiles long and 9 tiles wide, how many tiles did he use in all? 81 tiles
6. A seamstress has 2 pieces of lace measuring 45 in. and 54 in. She wishes to cut pieces of equal length, having the pieces as long as possible with no waste. How long should each piece be? 9 inches
7. A chemist has 25 oz of acid. If she wishes to use 3 oz at once and divide the rest equally among 3 flasks, how much will each flask contain? (Express the answer as a mixed number in simple form.)  $7\frac{1}{3}$  ounces    (Chap. 6)
8. A pollster found that in March, 17 out of 20 people favored Proposition A. In June, 19 out of 25 people favored the proposition. Was the proposition more popular or less popular in June? less popular
9. Mike answered 66 out of 75 questions correctly. Change Mike's score from the fraction  $\frac{66}{75}$  to a decimal. 0.88

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NAME \_\_\_\_\_ DATE \_\_\_\_\_

**Cumulative Practice: Chapters 7-9**

Add or subtract. Simplify.

1.  $\frac{4}{9} + \frac{8}{9}$   $1\frac{1}{3}$       2.  $\frac{7}{8} - \frac{5}{12}$   $\frac{11}{24}$       3.  $\frac{32}{9} + 6\frac{5}{6}$   $10\frac{1}{18}$  (Chap. 7)

Multiply or divide. Simplify.

4.  $\frac{3}{4} \times \frac{16}{4}$   $3$       5.  $\frac{16}{25} \div \frac{14}{35}$   $\frac{24}{35}$       6.  $8 \times 4\frac{3}{4}$   $38$

Express each ratio in lowest terms.

7. 45 min to 4 h  $3$  to  $16$       8. 75 cm : 3 m  $1$  :  $4$       9. 3 days : 15 h  $24$  :  $5$

Solve.

10.  $\frac{18}{a} = \frac{3}{5}$   $a = 30$       11.  $\frac{4}{y} = \frac{1}{y}$   $y = 5\frac{1}{4}$       12.  $\frac{b}{24} = \frac{3}{18}$   $b = 4$

Solve each equation.

13.  $\frac{4x}{1.6} = 2.5$   $11$       14.  $\frac{4}{9}x = 14$   $x = 31\frac{1}{2}$       15.  $7n + 13 = 76$   $71 = 9$  (Chap. 8)

Express as a fraction in lowest terms or as a mixed number in simplest form.

16. 84%  $\frac{21}{25}$       17. 190%  $1\frac{9}{10}$       18. 325%  $3\frac{1}{4}$  (Chap. 9)

Express as a percent.

19.  $\frac{13}{20}$   $65\%$       20.  $1\frac{1}{5}$   $162.5\%$       21. 0.073  $7.3\%$

Express as a decimal.

22. 41.6%  $0.416$       23. 127%  $1.27$       24. 0.68%  $0.0068$

Answer each question.

25. What percent of 32 is 80?  $250\%$       26. 24% of what number is 18?  $75$

NAME \_\_\_\_\_ DATE \_\_\_\_\_

**Cumulative Problem Solving Practice: Chapters 7-9**

Solve.

1. Carlo has 2 cups of flour. He needs  $\frac{3}{4}$  cup for one recipe,  $\frac{1}{8}$  cup for a second, and  $1\frac{1}{3}$  cups for a third. Does he have enough flour? No (Chap. 7)
2. The ratio of adults to children attending a new exhibit at the museum was found to be 7:3. Based on this ratio, if 370 attended one day, how many would be children? 111 chi in \_\_\_\_\_
3. On a map, 2 cm represents 500 km. If two cities are 375 km apart, what is the distance between them on the map? 1.5 \_\_\_\_\_
4. Julie has 300 in. of trim for a rectangular tablecloth she is making. If the tablecloth must be 90 in. long, how wide can it be if all the trim is to be used? 60 \_\_\_\_\_ (Chap. 8)
5. Two thirds of the freshman class voted in the school election. If 87 freshmen did not vote, how large is the freshman class? 261 s ents \_\_\_\_\_
6. A square garden measuring 5 ft. on a side is expanded to a new perimeter of 30 ft. If each side was lengthened equally, how much longer is each side? 2  $\frac{1}{2}$  \_\_\_\_\_
7. During a store-wide 30%-off sale, a pair of boots sold for \$31.50. What was the original price? \$ \_\_\_\_\_ (Chap. 9)
8. As a real estate agent, Henry Washington earns a 6.5% commission. If he earned \$5980 on a recent house sale, what was the selling price of the house? \$ 92 \_\_\_\_\_
9. The simple interest on a loan of \$3480 for  $2\frac{1}{2}$  years is \$826.50. What is the annual rate of interest? 9 \_\_\_\_\_ %
10. Krista Ericson invests \$4200 at 9%, compounded monthly. What is her investment worth at the end of 3 months? \$ 426 \_\_\_\_\_ !

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Cumulative Practice: Chapters 10-12**

Find the area of each figure described or pictured.

1. Parallelogram  
base: 8.6 m  
height: 4.2 m  
36.12 m<sup>2</sup>

43 cm<sup>2</sup>

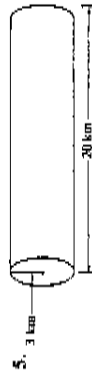
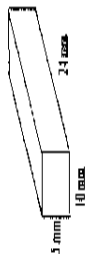
60 m<sup>2</sup>

(Chap. 10)



3.

2. Trapezoid  
bases: 9 cm and 11 cm  
height: 4.3 cm

Find the volume and total surface area of each solid. Use  $\pi \approx 3.14$ .

1200 mm<sup>3</sup>; 820 mm<sup>2</sup>

565 km<sup>3</sup>; 433.32 km<sup>2</sup>

Perform the indicated operation.

6.  $-14 + 9$  -5    7.  $-13 + -8$  -21    8.  $4 - -7$  11    (Chap. 11)  
9.  $-480 \div 32$  -15    10.  $-84 \div -29$  29    11.  $-2 \times -7 \times -9$  -126

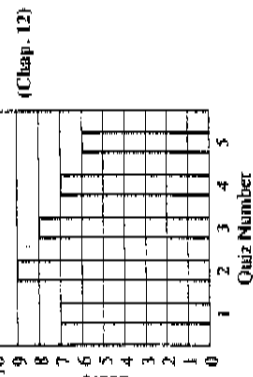
Solve each equation.

12.  $x - 4 = 16$   $x = 20$     13.  $-7y = 84$   $y = -12$     14.  $2w + 7 = -3$   $w = -5$

Complete each ordered pair for the equation  $y = 2x - 1$ .

15.  $(-2, \underline{-5})$     16.  $(-1, \underline{-3})$     17.  $(0, \underline{-1})$     18.  $(1, \underline{1})$

Use the bar graph shown for exercises 19-21.



19. On which quiz did Jan score highest? 2

20. The mean of the scores is 7.4

21. Which score has the highest frequency? 7

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**Cumulative Problem Solving Practice: Chapters 10-12**Solve. Use  $\pi \approx 3.14$ .

1. A circular flower bed 3 ft in diameter sits in the center of a square patio 10 ft on each side. What is the area of the patio, excluding the flower bed? 92.93 ft<sup>2</sup> (Chap. 10)
2. A fish tank is 40 cm long, 25 cm wide, and 15 cm deep. What is the volume of water in the tank when it is three-quarters full? 11,250 cm<sup>3</sup>
3. A chemist's graduated cylinder has a diameter of 2.6 cm and a height of 19 cm. Find its capacity in milliliters. 101 mL
4. A hiking club had 26 members in 1980. In the next three years they lost 4 members, gained 6, and lost 3. How many members did the club have in 1983? 25 members (Chap. 11)
5. A ship's anchor was dropped from a height of 1.4 m above the water to a depth of 10.8 m. How far did the anchor drop? 12.2 m
6. Sandy lost, on the average, 2 lb each week for 5 weeks. If Sandy weighed 156 lb at the start of his diet, what did he weigh after 5 weeks? 146 lb
7. A jogger ran 3.2 km on Monday, 4.6 km on Tuesday, and 4.2 km on Wednesday. How far must she run on Thursday to achieve a 4-day average of 4 km? 4 km (Chap. 12)
8. The people attending the Rodak family picnic had the following ages: 15, 39, 37, 3, 5, 26, 28, 62, 58, 41, 28, 18, 25, and 7. What was the median age? 27
9. A jar contains 6 red marbles, 8 green marbles, 4 white marbles, and 3 black marbles. What are the odds in favor of randomly selecting a white marble? 4 to 17

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