LESSON 8.1

NAME _____ DATE _____

Practice B

For use with pages 457–464

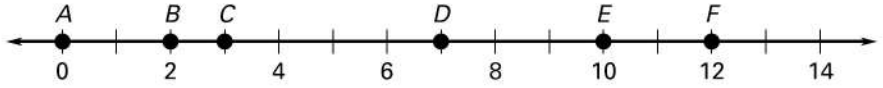
Simplify the ratio.

1. $\frac{8 \text{ books}}{24 \text{ books}}$
2. $\frac{24 \text{ trees}}{14 \text{ trees}}$
3. $\frac{18 \text{ balls}}{36 \text{ balls}}$
4. $\frac{48 \text{ feet}}{36 \text{ feet}}$

Rewrite the fraction so that the numerator and denominator have the same units. Then simplify.

5. $\frac{2 \text{ qt}}{4 \text{ gal}}$
7. $\frac{24 \text{ oz}}{2 \text{ lb}}$
8. $\frac{14 \text{ ft}}{6 \text{ yd}}$
9. $\frac{4\text{ft}}{8 \text{ in.}}$
10. $\frac{4 \text{ days}}{36 \text{ hours}}$
11. $\frac{1.5 \text{ m}}{80 \text{ cm}}$
12. $\frac{440 \text{ yd}}{2 \text{ mi}}$

Use the number line to find the ratio of the distances.



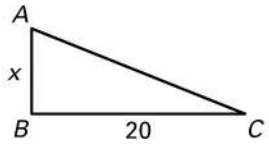
13. $\frac{AB}{CD} = \frac{?}{\quad}$
14. $\frac{BC}{DE} = \frac{?}{\quad}$
15. $\frac{AC}{BD} = \frac{?}{\quad}$
16. $\frac{CF}{AB} = \frac{?}{\quad}$

Solve the proportion.

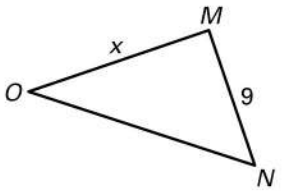
18. $\frac{y}{9} = \frac{4}{6}$
19. $\frac{17}{24} = \frac{m}{120}$
20. $\frac{6}{x} = \frac{8}{x + 3}$
21. $\frac{4}{y + 3} = \frac{3}{y - 4}$
22. $\frac{5}{2y - 7} = \frac{3}{y}$

The ratio of two side lengths of the triangle is given. Solve for the variable.

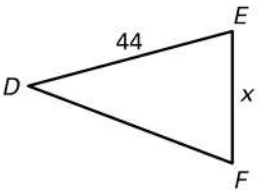
23. $AB : BC$ is 2:5



24. $MN : MO$ is 3:4



25. $DE : EF$ is 8:5



In Exercises 26 and 27, use the following information.

The largest submarines in the United States Navy are of the Ohio class. Each submarine is 560 feet long.

26. You purchase a scale model of one of the submarines. The package states the scale of 1 inch : 16 feet. What is the length of the completed model?
27. If the model is approximately 5 inches tall, what is the height of the actual submarine?

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LESSON 8.2

NAME _____ DATE _____

Practice B

For use with pages 465–471

Complete the sentence.

1. If $\frac{p}{q} = \frac{5}{8}$, then $\frac{q}{p} = \frac{?}{?}$.

3. If $\frac{p}{q} = \frac{5}{8}$, then $\frac{p+q}{q} = \frac{?}{?}$.

4. If $\frac{p}{q} = \frac{5}{8}$, then $\frac{?}{?} = \frac{13}{8}$.

Decide whether the statement is *true* or *false*.

5. If $\frac{x}{y} = \frac{2}{9}$, then $\frac{y}{x} = \frac{9}{2}$.

6. If $\frac{x}{y} = \frac{2}{9}$, then $\frac{2}{y} = \frac{x}{9}$.

7. If $\frac{x}{y} = \frac{2}{9}$, then $\frac{9}{y} = \frac{2}{x}$.

Find the geometric mean of the two numbers.

9. 6 and 10

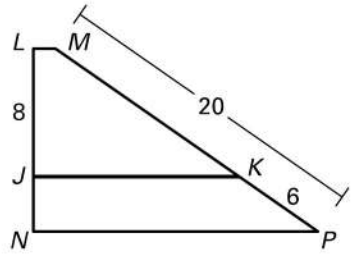
10. 8 and 9

11. 5 and 24

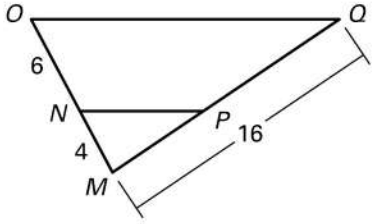
12. 10 and 15

Use the diagram and the given information to find the unknown length.

15. Given: $\frac{LJ}{JN} = \frac{MK}{KP}$, find JN.



16. Given: $\frac{MN}{NO} = \frac{MP}{PQ}$, find PQ.



17. In December 1999, the exchange rate of Mexican pesos to American dollars was 9.52 to 1. You paid 450 pesos for a jacket. Use the following verbal model to find the price of the jacket in dollars.

$$\frac{\text{Price in pesos}}{\text{Price in dollars}} = \frac{9.52 \text{ pesos}}{1 \text{ dollar}}$$

18. In December 1999, the exchange rate of Canadian dollars to American dollars was 1 to 0.68. You paid \$30.00 (in Canadian dollars) for a sweater. What was the price of the sweater in American dollars?

19. The Wright brothers made the world's first flight in a power-driven airplane. The flight lasted for 12 seconds at an average speed of 10 feet per second. The ratio of the airplane's wingspan to the distance flown was 1:3. How long was the wingspan?

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