

**LESSON**  
**6**

# Proportional Relationships

## Practice B: Scale Drawings and Scale Models

Identify the scale factor.

1.

	Alligator	Toy Alligator
Length (in.)	175	7

\_\_\_\_\_

2.

	Airplane	Model
Length (ft)	24	3

\_\_\_\_\_

3.

	Car	Toy Car
Length (ft.)	13.5	1.5

\_\_\_\_\_

4.

	Person	Action Figure
Height (in.)	66	6

\_\_\_\_\_

5.

	Boat	Model
Length (in.)	128	8

\_\_\_\_\_

6.

	Fish	Fishing Lure
Length (in.)	18	2

\_\_\_\_\_

7.

	Tiger	Stuffed Animal
Length (in.)	70	14

\_\_\_\_\_

8.

	House	Dollhouse
Height (ft)	39.2	2.8

\_\_\_\_\_

9. On a scale drawing, a school is 1.6 feet tall. The scale factor is  $\frac{1}{22}$ . Find the height of the school. \_\_\_\_\_

10. On a road map of Pennsylvania, the distance from Philadelphia to Washington, D.C., is 6.8 centimeters. The map scale is 2 cm:40 mi. What is the actual distance between the cities? \_\_\_\_\_

11. On a scale drawing, a bicycle is  $6\frac{4}{5}$  inches tall. The scale factor is  $\frac{1}{6}$ . Find the height of the bicycle. \_\_\_\_\_

**Practice C**

- $x = 21.6$  yd
- $x = 56^\circ$
- $x = 26^\circ$
- $x = 22.1$  m
- 9.5 meters
- 28 feet
- 225 inches
- 112 feet

**Review for Mastery**

- $MO$ ;  $MN$ ;  $x$ ; 6;  
 $x = 10$  cm
- $AD$ ;  $AB$ ; 5;  $\frac{y}{15}$ ;  
 $y = 27$  m
- $k = 29^\circ$
- $s = 122^\circ$

**Challenge**

- 10:15; 2:3
- 8.5:11; 17:22
- No, you need to leave room to print information about the dinner.
- 2 feet by 3 feet or 1 foot by 1.5 feet
- Yes, the ratios are equal.
- 6 inches by 9 inches

**Problem Solving**

- 78 feet long
- 68 feet tall
- 25 feet wide
- 15 inches wide
- C
- F
- C

**Reading Strategies**

- Possible answer: because you are not actually measuring, but using proportions to find a missing length
- Put the lengths of the sides into the proportion
- Possible answer:  $\frac{18}{6} = \frac{y}{5}$

**Puzzles, Twisters & Teasers**

- PROPORTION
- LENGTH
- CROSS PRODUCTS
- SOLVE
- 25

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**Answers for Lesson 6****Practice A**

- C
- F
- B
- G
- $\frac{1}{2}$
- $\frac{1}{4}$
- $\frac{1}{3}$
- $\frac{1}{7}$
- 150 miles
- 64 inches

**Practice B**

- $\frac{1}{25}$
- $\frac{1}{8}$
- $\frac{1}{9}$
- $\frac{1}{11}$
- $\frac{1}{16}$
- $\frac{1}{9}$
- $\frac{1}{5}$
- $\frac{1}{14}$
- 35.2 feet
- 136 miles
- $40\frac{4}{5}$  inches

**Practice C**

- $\frac{1}{4}$
- $\frac{1}{12}$
- $\frac{1}{17}$
- $\frac{1}{21}$
- length: 56 ft; height: 2 ft
- length: 300 ft
- height: 6 in.
- height: 40 ft
- length: 9.75 in.; height: 4.125 in.
- 19 ft
- 1:95
- 150 miles
- $193\frac{1}{5}$  inches

**Review for Mastery**

- $\frac{3 \text{ in.}}{24 \text{ in.}}; \frac{1}{8}$
- $\frac{4 \text{ cm}}{20 \text{ cm}}; \frac{1}{5}$
- 84 inches
- 75 miles