

LESSON

6

Proportional Relationships

Practice A: Scale Drawings and Scale Models

Identify the scale factor. Choose the best answer.

1. Person: 72 inches

Action figure: 6 inches

A $\frac{1}{7}$

C $\frac{1}{12}$

B $\frac{1}{10}$

D $\frac{1}{15}$

2. Dog: 24 inches

Stuffed animal: 8 inches

F $\frac{1}{3}$

H $\frac{1}{5}$

G $\frac{1}{4}$

J $\frac{1}{6}$

3. Fish: 16 inches

Fishing lure: 2 inches

A $\frac{1}{6}$

C $\frac{1}{12}$

B $\frac{1}{8}$

D $\frac{1}{14}$

4. House: 30 feet

Dollhouse: 3 feet

F $\frac{1}{3}$

H $\frac{1}{27}$

G $\frac{1}{10}$

J $\frac{1}{33}$

Identify the scale factor.

5.

	Guitar	Ukulele
Length (in.)	36	18

6.

	Car	Toy Car
Length (ft)	12	3

7.

	Flute	Piccolo
Length (in.)	30	10

8.

	Poodle	Toy Poodle
Height (in.)	56	8

9. On a road map of New York, the distance from New York City to Albany is 3 inches. The map scale is 1 in:50 mi. What is the actual distance between the cities?

10. On a scale drawing, a bookshelf is 8 inches tall. The scale factor is $\frac{1}{8}$. What is the height of the bookshelf?

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

OCTO-PUSS

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