

Using what you know about proportions, solve the following.

15. Standing next to each other, a 48-inch tall gorilla and a black bear cast shadows that are 87 inches and 103 inches, respectively. What is the height of the black bear, to the nearest tenth of inch?

$$\frac{48}{87} = \frac{x}{103}$$

$$48 \cdot 103 = 87x$$

$$4944 = 87x$$

$$x = 56.8 \text{ in}$$

17. The two triangles are similar. Find the measurement for x.

$$\frac{2.3}{3} = \frac{11.5}{x}$$

$$2.3x = 34.5$$

$$x = 15 \text{ in}$$

19. In order to determine the height of the flagpole in the school yard, Cindy is going to use similar triangles. The length of Cindy's shadow is 3 feet. Measuring the length of the shadow of the pole at the same time, she finds it to be 12 feet. Using this information and the fact that Cindy's height is 5.5 feet, give the height of the pole to the nearest hundredth of a foot.

$$\frac{5.5}{3} = \frac{x}{12}$$

$$5.5 \cdot 12 = 3x$$

$$66 = 3x$$

$$x = 22 \text{ ft}$$

16. If length AB is 16 cm, BD is 19 cm, and CB is 8 cm, then what is the length of ED?

$$\frac{16}{35} = \frac{8}{x}$$

$$16x = 280$$

$$x = 17.5 \text{ cm}$$

18. These figures are similar. Find the value of x.

$$\frac{5}{8} = \frac{10}{x}$$

$$5x = 80$$

$$x = 16 \text{ in}$$

20. A flagpole casts a shadow that is 14 feet long. At the same time a 4-foot-tall bench casts a shadow that is 5.6 feet long. How tall is the flagpole?

$$\frac{x}{14} = \frac{4}{5.6}$$

$$5.6x = 56$$

$$x = 10 \text{ ft}$$

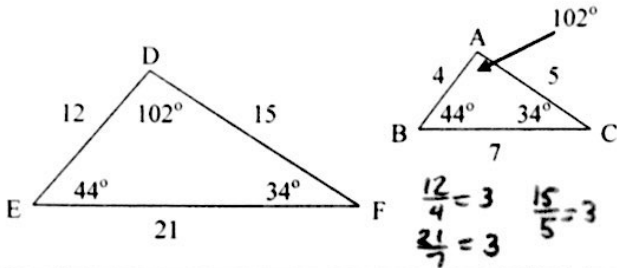
- ANSWER SHEET
- 15. 56.8 in
 - 16. 17.5 cm
 - 17. 15 in
 - 18. 16 in
 - 19. 22 ft
 - 20. 10 ft

UNIT 5 Part 2 Review: Similar Figures and Scale

Name: Key
Date: _____ Period: _____

SHOW SETUPS and STEPS for each problem on the review. Use extra paper if necessary.

Use the figures below to answer the questions 1-5.



- Which angle corresponds to $\angle A$?
- Which angle corresponds to $\angle C$?
- Which side corresponds to \overline{CB} ?
- Which side corresponds to \overline{AC} ?
- Are these figures similar?

ANSWER SHEET

1. D

2. F

3. FE

4. DF

5. YES

6. NO

7. YES

8. NO

9. YES

10. A

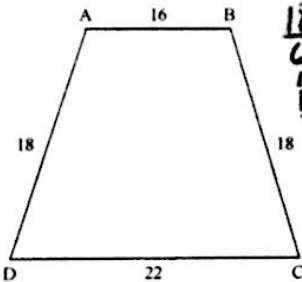
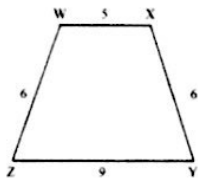
11. A

12. 2/1

13. 1/50

14. 1/2

6. Is trapezoid ABCD similar to trapezoid WXYZ?



NO
 $\frac{18}{6} = 3$ $\frac{18}{6} = 3$
 $\frac{16}{5} = 3.2$ $\frac{22}{9} = 2.4$
 $90 \neq 96$
 $\frac{18}{6} \neq \frac{16}{5}$
 $\frac{18}{6} \neq \frac{18}{9}$
 $\frac{14}{5} \neq \frac{110}{9}$

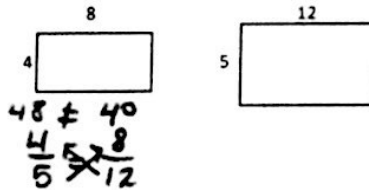
7. Are the following similar:

Two triangles with sides 4 : 16 : 10 and 2 : 8 : 5.

$\frac{4}{2} = 2$ $\frac{16}{8} = 2$ $\frac{10}{5} = 2$

Handwritten calculations: $\frac{32}{2} = 16$, $\frac{16}{2} = 8$, $\frac{10}{2} = 5$, $\frac{20}{4} = 5$, $\frac{10}{2} = 5$, $\frac{20}{4} = 5$.

8. Similar?



$48 \neq 40$
 $\frac{4}{5} \neq \frac{8}{12}$

9. Are two squares similar if one has a side = 10 cm and the other has a side = 6 cm?

$\frac{10}{6} = \frac{10}{6} \checkmark$

Find the scale factor for each of the following.

10. Boy: 72 inches and Action Figure: 6 inches

FIND THE SCALE FACTOR FOR THE BOY (figure to boy)

- (A) $\frac{1}{12}$ B $\frac{1}{10}$ C $\frac{1}{7}$ D $\frac{12}{1}$

$\frac{\text{figure}}{\text{boy}} = \frac{6 \text{ in}}{72 \text{ in}} = \frac{1}{12}$

11. Dog: 24 inches and Stuffed Animal: 8 inches

FIND THE SCALE FACTOR FOR THE STUFFED ANIMAL (dog to stuffed animal)

- (A) $\frac{3}{1}$ B $\frac{1}{4}$ C $\frac{1}{3}$ D $\frac{1}{5}$

$\frac{\text{dog}}{\text{S.A.}} = \frac{24 \text{ in}}{8 \text{ in}} = \frac{3}{1}$

12. Identify the Scale factor of the Flute.

(piccolo : flute)

Flute	Piccolo
36	18

$\frac{P}{F} = \frac{18}{36} = \frac{1}{2}$ (A) $\frac{2}{1}$

13. Identify the Scale factor of the map.

(actual : map)

Map Distance	Actual Distance
1 inch	50 miles

$\frac{a}{m} = \frac{50 \text{ mi}}{1 \text{ in}} = \frac{50}{1}$ (A) $\frac{1}{50}$

14. Identify the Scale factor of the Ukulele.

(guitar : ukulele)

Guitar	Ukulele
36	18

$\frac{g}{u} = \frac{36}{18} = \frac{2}{1}$ (A) $\frac{1}{2}$