

Scale Factors

1. The scale factor is the same for three of the four models below. Which of the following has a *different* scale factor?

A.

	Average 14 yr. old	Model
Height (in.)	63	9

B.

	Boat	Model
Height (in.)	49	7

C.

	Race Car	Model
Height (in.)	126	18

D.

	Chair	Model
Height (in.)	54	9

2. The scale on a map is 1 centimeter : 8 kilometers. The distance between 2 cities is 52 kilometers. How far apart are they on the map?

Answer: The distance between the two cities on the map is cm.

3.



An architect wants to make a miniature model of this truck. The scale will be $\frac{1}{4}$ inch = 2 feet. What will the height of the truck be in the model?

Answer: inches

4. On a map, 1 cm = 5 km. The distance between the shopping mall and the movie theater measures 6.7 cm. What is the actual distance between the mall and movie theater?

- A. 33.5 km
- B. 11.7 km
- C. 1.7 km
- D. 335 km

5. Yasmin is taking her favorite picture (3 in. wide and 5 in. long) to the local photo store to have it enlarged. She wants the new width to be 8 inches. What will be the new length the larger photo?

- A. 10 in.
- B. $13\frac{1}{3}$ in.
- C. 4.8 in.
- D. 5 in.

6. Jackson enjoys going to the Monster Truck show with his dad each year on his birthday. To celebrate his birthday, his dad bought him a model of his favorite Monster Truck.

Identify the scale factor.

	Model	Monster Truck
Length (in.)	32	160
Height (in.)	24	120

- A. 1:5
- B. 1:2
- C. 1:3
- D. 1:8

7. A scale drawing uses a scale of 1 inch = 5 feet. If the dimensions of the actual object are 40 feet by 50 feet, what are the dimensions of the scale drawing?

- A. 8 in. by 10 in.
- B. 16 in. by 20 in.
- C. 4 in. by 5 in.
- D. 10 in. by 12 in.

8. Blueprints for a new house show June's bedroom is 12 feet by 16 feet. If the scale on the blueprints is $\frac{1}{2}$ inch = 4 feet, what dimensions are her room on the blueprint?

- A. 1 inch \times 2 inches
- B. $2\frac{1}{2}$ inches \times 3 inches
- C. $1\frac{1}{2}$ inches \times 2 inches
- D. 3 inches \times 4 inches

9. The distance between two cities on a map is 8 cm. The scale on the map is 1 cm = 35 km. What is the actual distance between the two cities?

- A. 4.38 km.
- B. 280 km.
- C. 43 km.
- D. 342 km.

10. On a scale drawing, the scale factor is $\frac{1}{12}$. A citrus tree is 7 inches tall on the drawing. What is the height of the actual citrus tree?

- A. 19 in.
- B. 17 in.
- C. 84 in.
- D. 5 in.

11. Identify the scale factor:

	Stuffed Animal	Alligator at the zoo
Length (ft.)	2	8

- A. 1:8
- B. 1:2
- C. 1:3
- D. 1:4

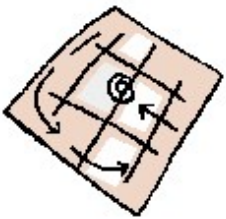
12. Jesse creates models of American Civil War items. He wants to add a model war sword to his collection. The actual sword measures 34.2 inches. How big should Jesse make the model sword if he uses the scale factor of 1:5 on all items?

- A. 6.84 in.
- B. 171 in.
- C. 39.2 in.
- D. 34.2 in.

13. A map of Maplewood uses the scale $\frac{1}{4}$ inch = 4 feet. The distance from the school to the park is 60 feet. How many inches would the distance be on the map?

- A. 240 inches
- B. 15 inches
- C. $3\frac{3}{4}$ inches
- D. $4\frac{1}{4}$ inches

14.



If the scale on a map is $\frac{1}{2}$ inch = 5 miles, then how far would $4\frac{1}{2}$ inches on the map be in real measure?

Answer: miles

15. Identify the scale factor.

	Model	Television
Height (in.)	5	60

- A. 60:5
- B. 1:12
- C. 1:5
- D. 1:60

16. Phineas is expanding the garden in his back yard. His current garden measures 8 ft. long by 6 ft. wide. He wants to keep the same shape but enlarge it so more items can be planted. If he uses a scale factor of $\frac{5}{2}$, what will be the new dimensions of garden?

- A. 40 ft. long by 30 ft. wide
- B. 16 ft. long by 12 ft. wide
- C. 20 ft. long by 15 ft. wide
- D. 40 ft. long by 12 ft. wide

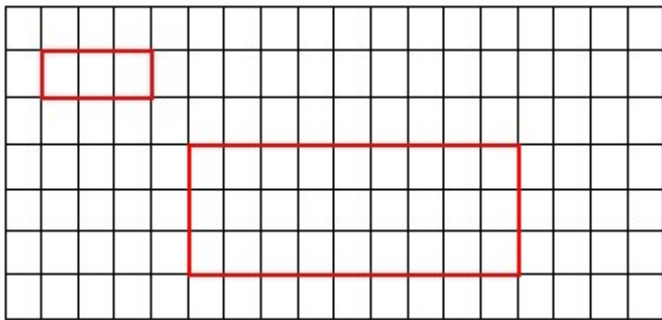
17. The actual distance from Charlotte to High Point is 75 miles. If the map scale is 1.25 in. = 25 mi., what is the distance in inches between the two cities on the map?

- A. 3.75 in.
- B. 20 in.
- C. 3 in.
- D. 2.5 in.

18. Linda made a scale drawing of her classroom for her math project. She used a scale of 1 cm = 2.5 ft. If the length of her classroom on the drawing measured 20 cm, what is the actual length of her classroom?

- A. 50 ft.
- B. 1,250 ft.
- C. 500 ft.
- D. 43 ft.

19. What is the scale factor that was used to draw the larger figure?



- A. $\frac{1}{10}$
- B. $\frac{1}{9}$
- C. $\frac{3}{1}$
- D. $\frac{4}{1}$

20. A scale drawing of a boat is 15 centimeters long. If the drawing uses a scale of 1 centimeter = 1.5 feet, how long many feet long is the actual boat?

- A. 0.1 feet
- B. 10 feet
- C. 16.5 feet
- D. 22.5 feet

21.



Kathy is making a model of Chicago's Sears Tower for her Social Studies project. The scale she would like to use is $\frac{1}{2}$ inch = 20 feet. If the Sears Tower is 1,450 feet tall, how tall should Kathy build her model?

Answer: inches

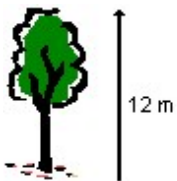
22. Billy Bishop's family has a rectangular herb garden in their backyard. They have decided to start selling some of their herbs at the local farmer's market, so they need to expand their current garden, which measures 5 feet wide by 8 feet long. They are going to keep the same shape, just enlarge it by a scale factor of 6:2. What will be the new measurements of the herb garden?

- A. 60 ft. by 80 ft.
- B. 15 ft. by 24 ft.
- C. 40 ft. by 12 ft.
- D. 30 ft. by 16 ft.

23. Molly has a doll house that measures 24 inches long, 20 inches wide and 22 inches tall. Her dad has agreed to build Molly a play house in the back yard that is similar in shape to her doll house. If her dad is using the scale factor of $\frac{7}{2}$, what will be the measurements of Molly's new play house?
- A. 168 in. long, 140 in. wide, 154 in. tall
 - B. 42 in. long, 35 in. wide, 38.5 in. tall
 - C. 48 in. long, 40 in. wide, 44 in. tall
 - D. 84 in. long, 70 in. wide, 77 in. tall

24. The Empire State building is 17,500 inches tall at its highest point. A model of the Empire State building is 5 feet tall. What is the scale used to create the model?
- A. 1 foot : 3,500 inches
 - B. 3,500 feet : 1 inch
 - C. 1 foot : 87,500 inches
 - D. 5 feet : 5,833 inches

25.



Lee wants to make a model of the tallest tree in his yard for his science project. His teacher says he has to use a scale of 1 cm = 1 m. What will the height of the tree in the model be?

Answer: cm

26. Juanita created a scale drawing of her house using the scale 1 inch = 5 feet. In the drawing her house was 10 inches tall. The teacher told Juanita the picture was too small and to redo it using the scale 1 inch = 2 feet. How tall is Juanita's house now in the new drawing?
- A. 10 inches
 - B. 20 inches
 - C. 25 inches
 - D. 50 inches

27. On a county map, 2 towns are 80 km apart. If the scale on the map is 1 cm = 5 km, how far apart are the towns on the map?

Answer: cm

28. Tabitha wants to be an architect. She practices drawing in her spare time. The latest scale drawing she made was of her bedroom. What was the scale factor that Tabitha used on her drawing?

	Drawing	Tabitha's room
Length (in.)	12	144
Width (in.)	10	120

- A. 1:10
- B. 1:12
- C. 12:10
- D. 7:12

29. The area of a square room in a scale drawing is 36 cm^2 . The drawing uses the scale 1 centimeter = 2 feet. What is the perimeter of the actual room?

Answer: The perimeter of the room is cm.

30. On a map of the United States, the distance between two cities is 2 centimeters. The map uses the scale, 0.5 cm = 80 miles. What is the distance between the same two cities on a different map that uses a scale 1 cm = 100 miles?

Answer: The distance between the two cities on the map that uses the scale of 1 cm : 100 miles is cm.