ALBERT

Name _____ Date _____

Scale Drawings Worksheet

Grade 7 · Common Core 7.G.A.1

> Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

Practice

Builds the skill step by step.

1. A map scale is 1 inch = 20 miles. Two cities are 3 inches apart on the map. How far apart are they?

2. A drawing uses the scale 1 cm = 4 m. A wall is 5 cm long in the drawing. How long is the real wall?

3. A scale is 1 inch = 8 feet. A room is 32 feet long. How long is it in the drawing?

4. A model car is built at a scale of 1 : 24. The model is 7 inches long. How long is the real car?

   A. 31 inches

   B. 17 inches

   C. 3.4 inches

   D. 168 inches

5. On a map, 2 cm represents 15 km. What distance does 6 cm represent?

6. A scale drawing uses $\frac{1}{2}$ inch = 1 foot. A table is 6 feet long. How long is it in the drawing?

7. A blueprint scale is 1 inch = 4 feet. A room is 3.5 inches by 2 inches on the blueprint. What are the real dimensions?

8. Which scale gives the largest drawing of a 40-foot house?

   A. 1 inch = 4 feet

   B. 1 inch = 5 feet

   C. 1 inch = 10 feet

   D. 1 inch = 2 feet

9. A map scale is 1 cm = 250 m. A path is 1,500 m long. How long is it on the map?

10. A rectangle 4 cm by 6 cm is copied with a scale factor of 3. What are the new dimensions?

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On Level

Grade-level practice.

1. A garden plan uses 1 inch = 5 feet. On the plan the garden is 4 inches by 6 inches. What is the real area of the garden?

2. A map scale is $\frac{1}{4}$ inch = 10 miles. Two towns are $2\frac{3}{4}$ inches apart on the map. How far apart are they?

3. A 3 cm by 5 cm rectangle is enlarged by a scale factor of 2. What is the new area, and how many times the original area is it?

4. A drawing uses 1 cm = 2 m. It is redrawn at 1 cm = 4 m. A line is 10 cm long in the first drawing. How long is it in the new drawing?

   A. 20 cm

   B. 5 cm

   C. 10 cm

   D. 40 cm

5. A tree 36 feet tall is drawn 4.5 inches tall. Write the scale as 1 inch = ? feet.

6. On a map, 3 cm = 50 km. Two cities are 210 km apart. How far apart are they on the map?

7. A floor plan has scale 1 : 50. A room is 8 cm by 9 cm on the plan. What is the real area of the room in square meters?

8. A 4-inch by 6-inch photo is enlarged so the shorter side is 10 inches. How long is the longer side?

   A. 12 inches

   B. 24 inches

   C. 60 inches

   D. 15 inches

9. A model train uses a scale of 1 : 87. A real train car is 52.2 feet long. How long is the model, in inches?

10. A drawing of a soccer field uses 1 inch = 20 yards. The field is 120 yards by 80 yards. What are the dimensions in the drawing?

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Challenge

Multi-step and word problems that stretch it.

1. A park is 300 m by 180 m. Ana must draw it on paper that is 20 cm by 15 cm, using 1 cm = ? m with a whole number. What is the smallest whole-number scale that fits?

2. A map scale is 1 inch = 12 miles. A car drives at 48 miles per hour. How many minutes does it take to drive a road that is $2\frac{1}{2}$ inches long on the map?

3. A square room has an area of 144 ft^2. It is drawn with a scale of 1 inch = 3 feet. What is the area of the room in the drawing?

4. Drawing A shows a building at 1 cm = 5 m. Drawing B shows the same building at 1 cm = 2 m. Which statement is true?

   A. Drawing B is 2.5 times as long as Drawing A.

   B. Drawing A is 2.5 times as long as Drawing B.

   C. Both drawings are the same size.

   D. Drawing B is 3 cm longer than Drawing A.

5. A rectangle in a scale drawing is 2.5 cm by 4 cm. The scale is 1 cm = 6 m. What is the real perimeter?

6. A room has an area of 12 in^2 in a scale drawing. The scale is 1 inch = 4 feet. What is the real area?

7. A blueprint uses $\frac{3}{4}$ inch = 2 feet. A wall is 15 feet long. How long is it on the blueprint?

8. Raj says doubling a drawing's size doubles every area. A 3 cm by 4 cm rectangle is redrawn at double size. What is its new area?

   A. 48 cm^2

   B. 24 cm^2

   C. 14 cm^2

   D. 96 cm^2

9. On Map A (1 cm = 2 km) a lake is 4.5 cm long. How long is the lake on Map B, where 1 cm = 3 km?

10. A triangle has sides of 6 cm, 8 cm and 10 cm. It is redrawn with a scale factor of $\frac{3}{4}$. What is the new perimeter?