

Scale It Up

Use matching sides to solve scale problems.

GRADE 7 • TEKS 7.5.C

7.5.C "solve mathematical and real-world problems involving similar shape and scale drawings."

NAME _____

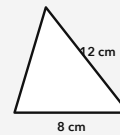
DATE _____

MATCHING SIDES

Similar figures have matching sides in the same ratio. Find the scale factor from one pair of matching sides, then multiply every matching length by that factor.

WORKED EXAMPLE

A larger triangle is similar to the triangle shown. Its side matching the 8 cm side shown is 20 cm. Find the larger side that matches the 12 cm side shown.



1. Scale factor = $20/8 = 5/2$.

2. $x = 12 \times 5/2$.

3. $x = 30$ cm.

Answer: 30 cm

PRACTICE 4 problems

- 1** A scale drawing uses 1 cm for 7 m. A path is 4 cm on the drawing. What is its actual length?

ANSWER _____

- 2** A 3 cm by 11 cm rectangle is enlarged so the 3 cm side becomes 18 cm. Find the length matching the 11 cm side.

ANSWER _____

- 3** A photo shrinks a 27 cm banner to 9 cm. What is the scale factor from the original to the image?

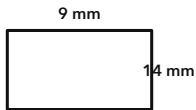
ANSWER _____

- 4** For two similar triangles, smaller side/larger side = $3/4$. A larger matching side is 22 cm. Find the smaller side.

ANSWER _____

APPLY IT Show your work

- 1** The rectangular game badge shown is a scale drawing. The real badge side matching the 9 mm side shown is 36 mm. Find the real length matching the 14 mm side shown.



ANSWER _____

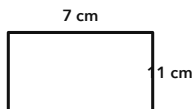
- 2** A model skateboard ramp and the real ramp are similar. The model is 15 cm long, and the real ramp is 180 cm long. A matching rail is 9 cm on the model. How long is the real rail?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The rectangle shown is a scale drawing of a similar real poster. The real side matching the 7 cm side shown is 21 cm. What is the area of the real poster?



WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A scale drawing uses 1 cm for 7 m. A path is 4 cm on the drawing. What is its actual length?	28 m
2	A 3 cm by 11 cm rectangle is enlarged so the 3 cm side becomes 18 cm. Find the length matching the 11 cm side.	66 cm
3	A photo shrinks a 27 cm banner to 9 cm. What is the scale factor from the original to the image?	1/3
4	For two similar triangles, smaller side/larger side = $\frac{3}{4}$. A larger matching side is 22 cm. Find the smaller side.	16.5 cm

PART 2 • APPLY IT

1. **56 mm** The scale factor is $36/9 = 4$. Multiply 14 by 4.
2. **108 cm** The scale factor is $180/15 = 12$. Multiply 9 by 12.

CHALLENGE**693 cm²**

Accept equivalent fractions and decimals where appropriate. For the challenge, the other real side is 33 cm before finding the area.