

Similar Shapes and Scale Factors

Name: _____ Date: _____

Show your calculations, diagrams and explanations. Start with questions 1–2, then build toward the final challenge.

Public practice with published answers. This is not a full-topic readiness assessment.

1. A rectangle is 4 cm by 3 cm. Enlarge it by scale factor 2. Find the new dimensions and explain why both must change.

Original: cm



4

Original rectangle

Show your work:

2. A 15 cm by 10 cm photograph is reduced by scale factor 0.4. Find its new dimensions.

Original: cm



15

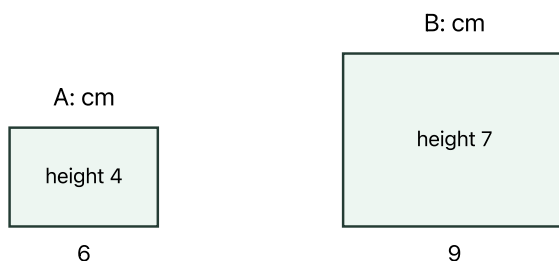
Photograph dimensions

Show your work:

3. Triangle A has sides 5 cm, 7 cm and 8 cm. Triangle B has corresponding sides 15 cm, 21 cm and 24 cm. Are they similar? Show all three ratios.

Show your work:

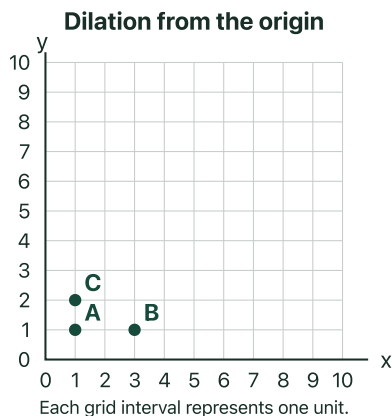
4. A rectangle is 6 cm by 4 cm. Another is 9 cm by 7 cm, with long sides corresponding. Are they similar? Explain.



Compare corresponding sides

Show your work:

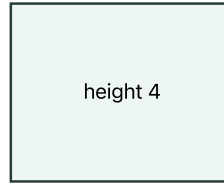
5. Dilate triangle A(1, 1), B(3, 1), C(1, 2) from the origin by scale factor 3. Plot the image and compare the horizontal and vertical leg lengths.



Show your work:

6. A 5 cm by 4 cm rectangle is enlarged by length scale factor 1.5. Find the new dimensions, both areas and the area scale factor.

Original: cm



5

Original rectangle for area comparison

Show your work: