

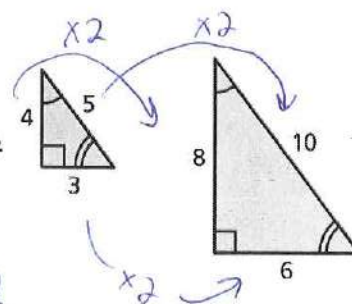
**Chapter
2**

Partner Quiz

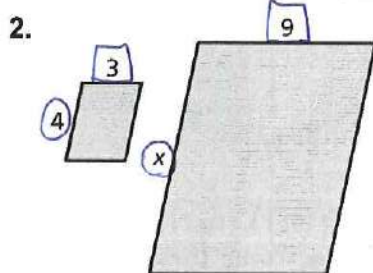
For use after Section 2.7

1. Tell whether the two triangles are similar. Explain your reasoning.

Yes they are similar. This is a dilation going from the small to big triangle. It was a scale factor of 2.



The polygons are similar. Write and solve a proportion to find x .

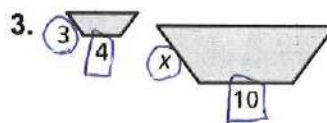


$$\frac{3}{4} = \frac{9}{x} \quad / \quad \frac{4}{3} = \frac{x}{9} \quad / \quad \frac{3}{9} = \frac{4}{x}$$

$$4 \cdot 9 = 3 \cdot x$$

$$\frac{36}{3} = \frac{3x}{3}$$

$$x = 12$$



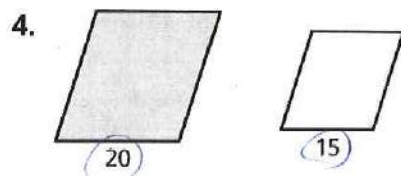
$$\frac{3}{x} = \frac{4}{10} \quad / \quad \frac{3}{4} = \frac{x}{10} \quad / \quad \frac{4}{3} = \frac{10}{x}$$

$$3 \cdot 10 = 4 \cdot x$$

$$\frac{30}{4} = \frac{4x}{4}$$

$$x = 7.5$$

The two figures are similar. Find the ratios (shaded to nonshaded) of the perimeters and of the areas.



Corresponding Sides = Perimeter

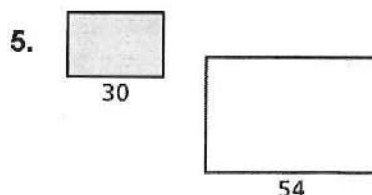
Perimeter: $\frac{20}{15} = \frac{20}{15} = \left(\frac{4}{3}\right)$ $\star$ Simplify

Corresponding Sides $\rightarrow$ Area

Area: $\left(\frac{4}{3}\right)^2 = \left(\frac{16}{9}\right)$

Perimeter:

Ratio of Corresponding Sides = Ratio of Perimeters



Perimeter: $\frac{30}{54} = \left(\frac{5}{9}\right)$ $\star$ Simplify

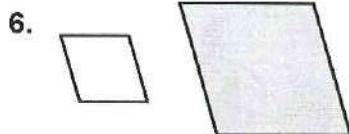
Area: $\left(\frac{5}{9}\right)^2 = \left(\frac{25}{81}\right)$

Area:

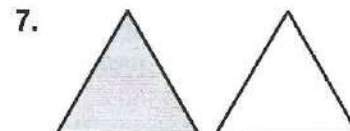
Ratio of Corresponding Sides $\rightarrow$ Area

$\left(\frac{\text{Ratio of Corresponding Sides}}{\text{Ratio of Corresponding Sides}}\right)^2 = \text{Ratio of Area}$

Tell whether the shaded figure is a dilation of the nonshaded figure. (Yes/No)



Yes



No

8. The front of the speaker is similar to the front of a speaker in a photo. What is the area of the front of the speaker? Show your work.



Area = 6 in.²



18 in.

$$\frac{\text{Picture Area}}{\text{Actual Area}} = \left(\frac{\text{Ratio of Corresponding Sides}}{\text{Ratio of Corresponding Sides}} \right)^2$$

$$\frac{\text{Picture Area}}{\text{Actual Area}} = \frac{6}{x} = \frac{1}{36} \rightarrow \text{Solve: } 36 \cdot 6 = 1 \cdot x$$

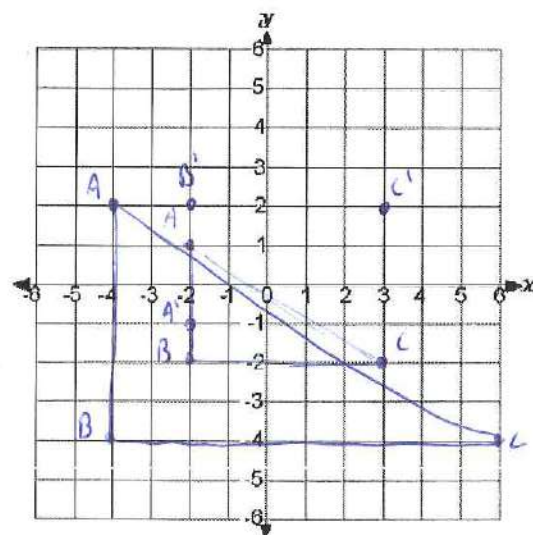
$$216 = x$$

$$\frac{\text{Ratio of Corresponding Sides}}{\text{Ratio of Corresponding Sides}} = \frac{3 \text{ picture}}{18 \text{ Actual}}$$

$$\text{Simplify: } \left(\frac{1}{6} \right)^2 = \frac{1}{36}$$

9. The vertices of a triangle are $A(-4, 2)$, $B(-4, -4)$, and $C(6, -4)$. Dilate the triangle with respect to the origin using a scale factor of $\frac{1}{2}$. Then reflect in the x -axis. Draw the images on the grid. What are the coordinates of the image?

Vertex	A	B	C
Original	$-4, 2$	$-4, -4$	$6, -4$
After Dilation	$\frac{1}{2} \cdot -4, \frac{1}{2} \cdot 2$ $(-2, 1)$	$\frac{1}{2} \cdot -4, \frac{1}{2} \cdot -4$ $(-2, -2)$	$\frac{1}{2} \cdot 6, \frac{1}{2} \cdot -4$ $(3, -2)$
After Reflection	$(-2, -1)$	$(-2, 2)$	$3, 2$



★ Make sure to Dilate the figure then Reflect the image dilated.