

7-2

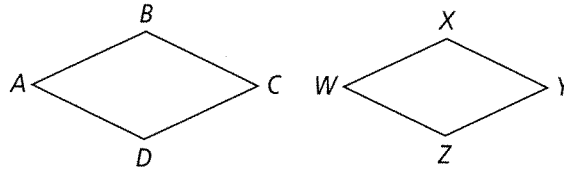
Practice

Form G

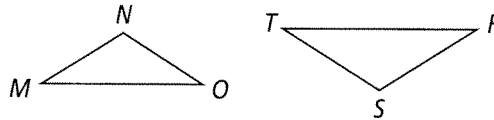
Similar Polygons

List the pairs of congruent angles and the extended proportion that relates the corresponding sides for the similar polygons.

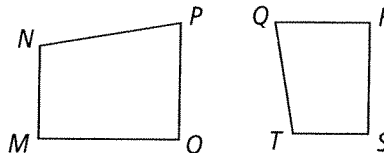
1. $ABCD \sim WXYZ$



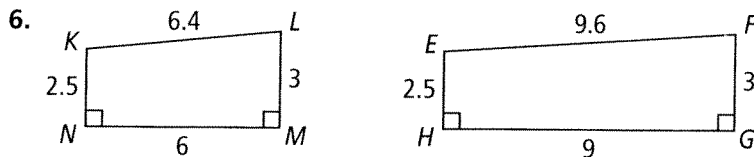
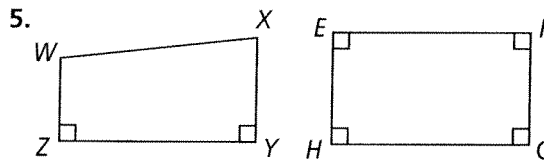
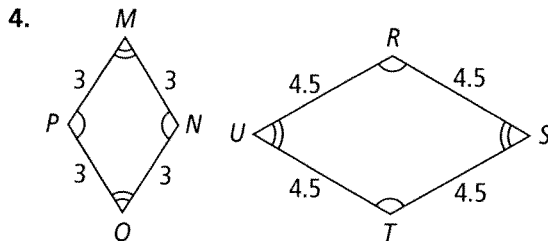
2. $\triangle MNO \sim \triangle RST$



3. $NPOM \sim TQRS$



Determine whether the polygons are similar. If so, write a similarity statement and give the scale factor. If not, explain.



Determine whether the polygons are similar.

7. an equilateral triangle with side length 6 and an equilateral triangle with side length 15
8. a square with side length 4 and a rectangle with width 8 and length 8.5
9. a triangle with side lengths 3 cm, 4 cm, and 5 cm, and a triangle with side lengths 18 cm, 19 cm, and 20 cm
10. a rhombus with side lengths 8 and consecutive angles 50° and 130° , and a rhombus with side lengths 13 and consecutive angles 50° and 130°

7-2 Practice (continued)

Similar Polygons

Form G

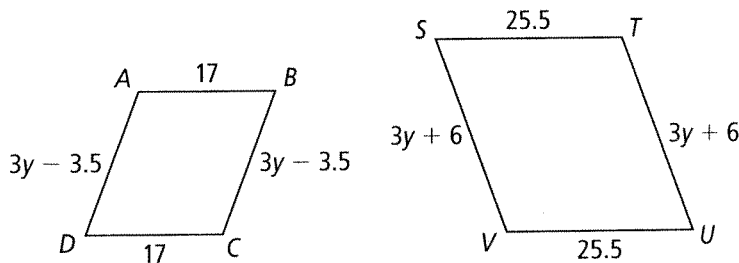
- An architect is making a scale drawing of a building. She uses the scale 1 in. = 15 ft.
 - If the building is 48 ft tall, how tall should the scale drawing be?
 - If the building is 90 ft wide, how wide should the scale drawing be?
- A scale drawing of a building was made using the scale 15 cm = 120 ft. If the scale drawing is 45 cm tall, how tall is the actual building?

Determine whether each statement is *always*, *sometimes*, or *never* true.

- Two squares are similar.
- Two hexagons are similar.
- Two similar triangles are congruent.
- A rhombus and a pentagon are similar.

Algebra Find the value of y . Give the scale factor of the polygons.

17. $ABCD \sim TSVU$



18. The scale factor of $RSTU$ to $VWXY$ is 14 : 3. What is the scale factor of $VWXY$ to $RSTU$?

In the diagram below, $\triangle PRQ \sim \triangle DEF$. Find each of the following.

19. the scale factor of $\triangle PRQ$ to $\triangle DEF$

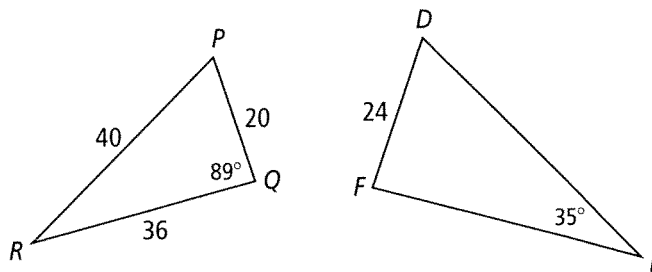
20. $m\angle D$

21. $m\angle R$

22. $m\angle P$

23. DE

24. FE



25. **Writing** Explain why all isosceles right triangles are similar, but not all scalene right triangles are similar.