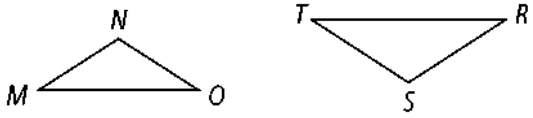
Name_____ Date_____

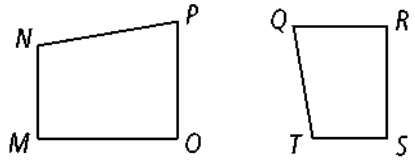
7.2 – Similar Polygons

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

1) $\Delta MNO \sim \Delta RST$

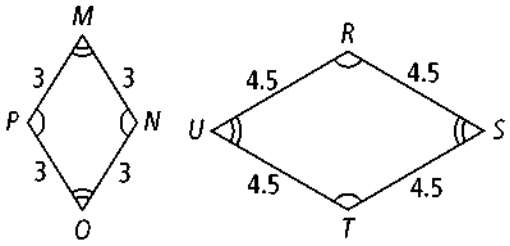


2) *NPOM ~ TQRS*

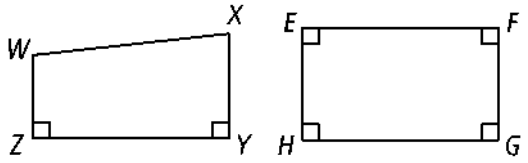


Determine whether the polygons are similar. If so, write a similarity statement and give the scale factor. If not, explain.

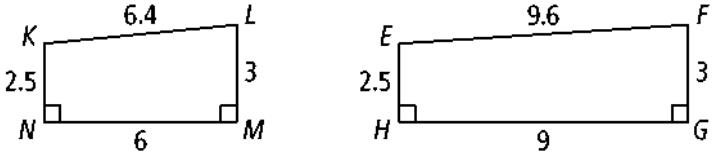
3)



4)



5)



Determine whether the polygons are similar.

6) an equilateral triangle with side length 6 and an equilateral triangle with side length 15

7) a square with side length 4 and a rectangle with width 8 and length 8.5

8) 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

9) a rhombus with side lengths 8 and consecutive angles 50º and 130 º, and a rhombus with side lengths 13 and consecutive angles 50 º and 130 º

10) An architect is making a scale drawing of a building. She uses the scale 1 in. = 15 ft.

a. If the building is 48 ft tall, how tall should the scale drawing be?

b. If the building is 90 ft wide, how wide should the scale drawing be?

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

11) Two squares are similar.

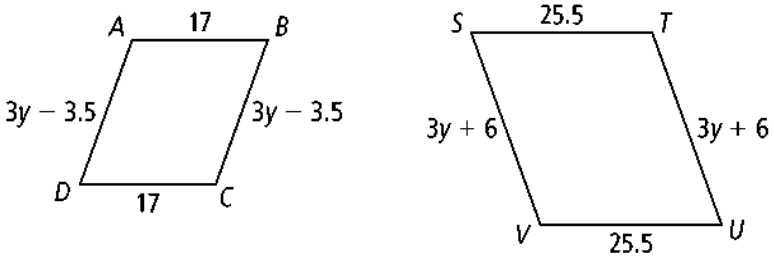
12) Two hexagons are similar.

13) Two similar triangles are congruent.

14) A rhombus and a pentagon are similar.

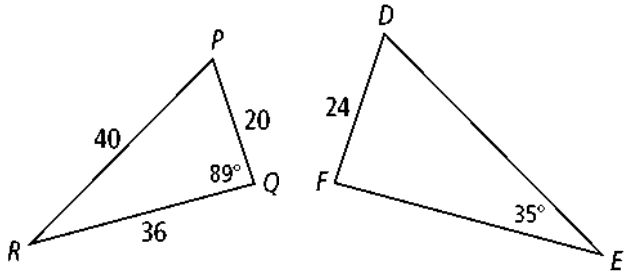
Find the value of *y*. Give the scale factor of the polygons.

15) *ABCD* ~ *TSVU*



In the diagram below, Δ*PRQ* ~ Δ*DEF*. Find each of the following.

16) the scale factor of Δ*PRQ* to Δ*DEF*



17) $m\angle D$

18) $m\angle R$

19) $m\angle P$

20) *DE*

21) *FE*