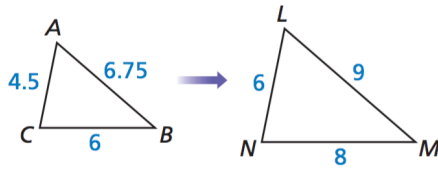


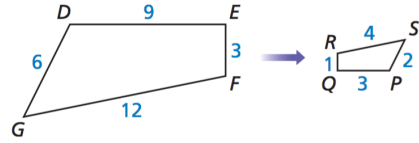
8.1 Similar Polygons

Find the scale factor. Then list all pairs of congruent angles and write the ratios of the corresponding side lengths in a statement of proportionality.

1. $\triangle ABC \sim \triangle LMN$

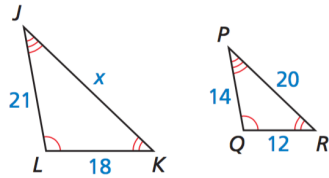


2. $DEFG \sim PQRS$

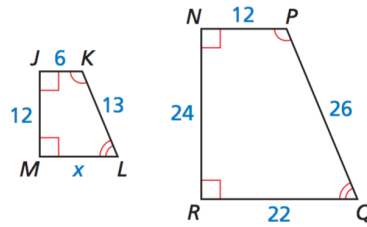


The polygons are similar. Find the value of x .

3.

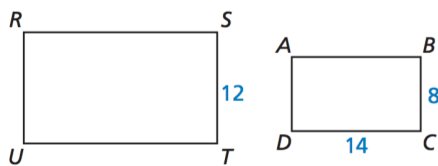


4.

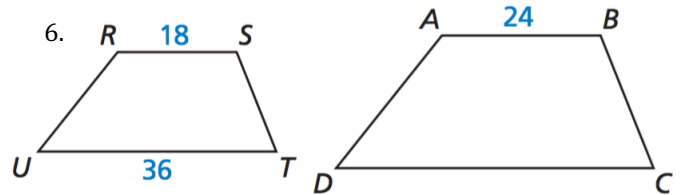


$RSTU \sim ABCD$. Find the ratio of their perimeters.

5.



6.



Name _____ Date _____ Period _____

Two polygons are similar. The perimeter of one polygon and the ratio of the corresponding side lengths are given. Find the perimeter of the other polygon.

7. perimeter of smaller polygon: 48 cm; ratio: $\frac{2}{3}$

8. perimeter of smaller polygon: 66 ft; ratio: $\frac{3}{4}$

9. perimeter of larger polygon: 120 yd; ratio: $\frac{1}{6}$

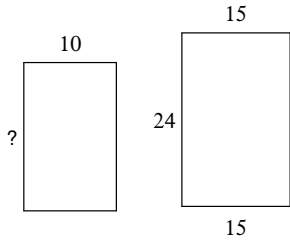
10. perimeter of larger polygon: 85 m; ratio: $\frac{2}{5}$

11. Your family has decided to put a rectangular patio in your backyard, similar to the shape of your backyard. Your backyard has a length of 45 feet and a width of 20 feet. The length of your new patio is 18 feet. Find the perimeters of your backyard and of the patio.

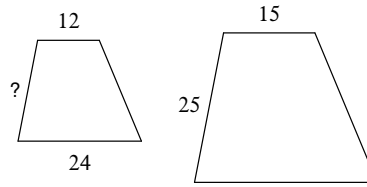
Using Similar Polygons

The polygons in each pair are similar. Find the missing side length.

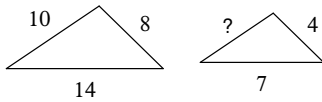
1)



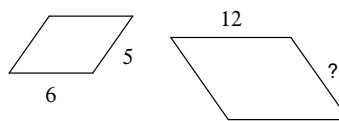
2)



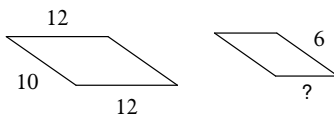
3)



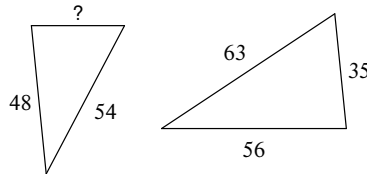
4)



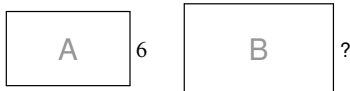
5)



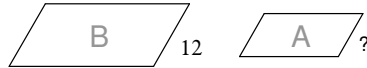
6)



7)



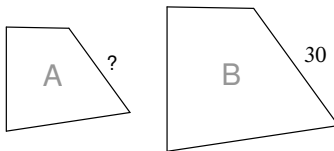
8)



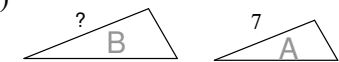
scale factor from A to B = 2 : 7

scale factor from A to B = 2 : 3

9)



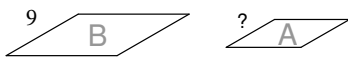
10)



scale factor from A to B = 5 : 6

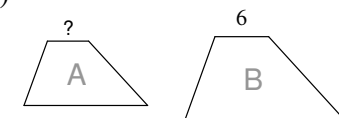
scale factor from A to B = 1 : 7

11)

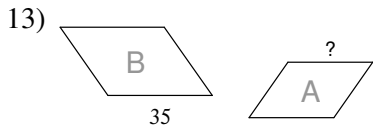


scale factor from A to B = 2 : 3

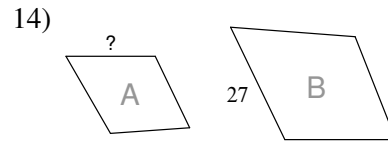
12)



scale factor from A to B = 1 : 2

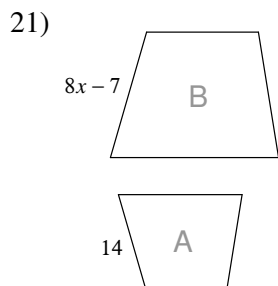
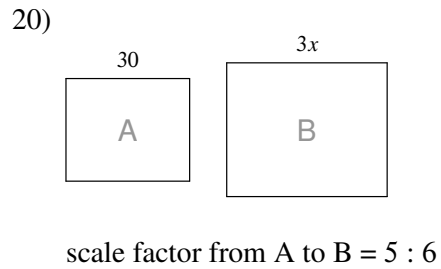
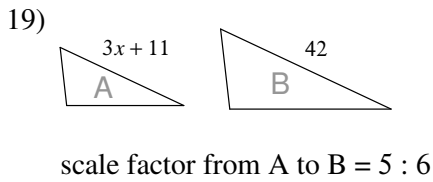
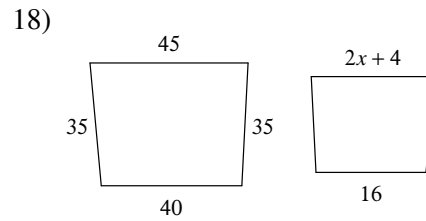
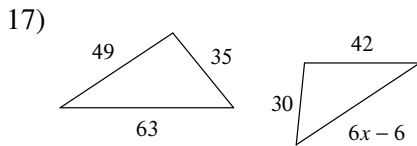
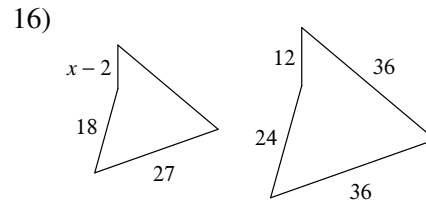
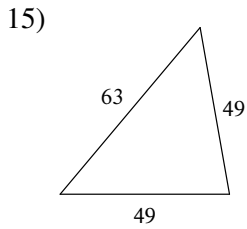


scale factor from A to B = 6 : 7



scale factor from A to B = 1 : 3

Solve for x . The polygons in each pair are similar.



scale factor from A to B = 2 : 7

