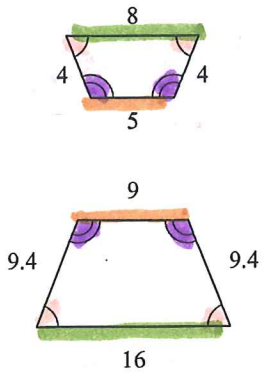
Geometry Name Key

Similar Figures extra practice

State if the polygons are similar. Show work!

① = SLR ② ≅ corr. ∠s

1)



we have ≅ corr. ∠s ☺ but SLR are not equal

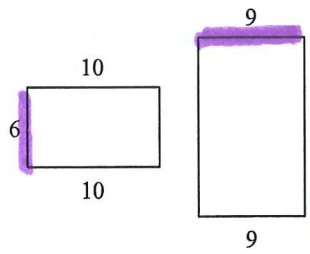
$\frac{16}{8} = 2 = SLR$

$\frac{9}{5} = \frac{9}{5} = SLR$

So the polygons are not similar.

The polygons in each pair are similar. Find the scale factor.

2)

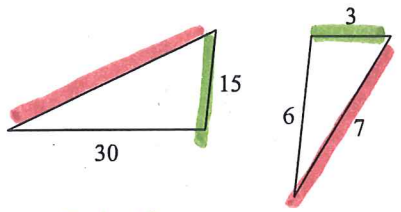


$\frac{9}{6} = \frac{3}{2}$

OR

$\frac{2}{3} = SF$

3)



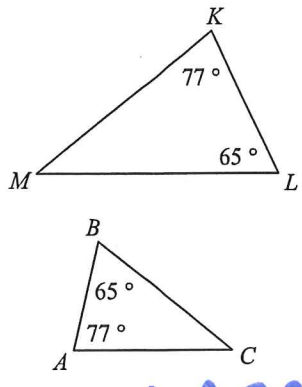
$\frac{3}{15} = \frac{1}{5}$

SLR = SF

$\frac{15}{3} = 5$

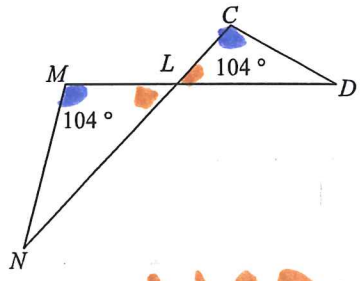
Tthe triangles in each pair are similar. Complete the similarity statement.

4)



$\triangle KLM \sim$ ΔABC

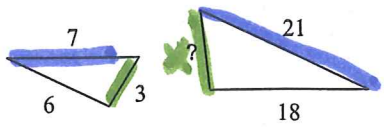
5)



$\triangle LMN \sim$ ΔLCD

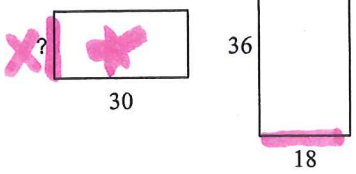
The polygons in each pair are similar. Find the missing side length.

6)



$\frac{x}{3} = \frac{21}{7}$ $x = 9$

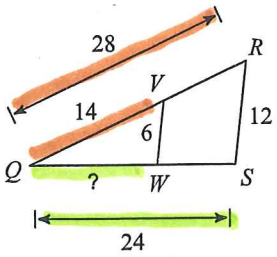
7)



$\frac{18}{x} = \frac{36}{30}$ $x = 15$

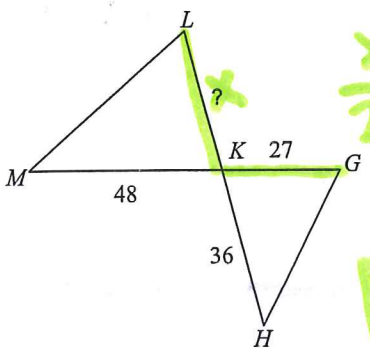
Find the missing length. The triangles in each pair are similar.

8)



$\frac{x}{24} = \frac{14}{28}$ $x = 12$

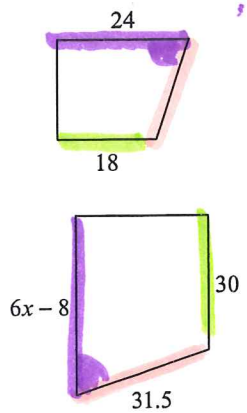
9)



$\frac{x}{27} = \frac{48}{36}$ $x = 36$

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

10)

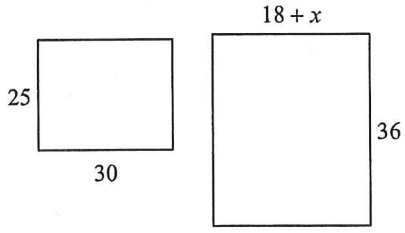


$\frac{6x-8}{24} = \frac{30}{18}$

$18(6x-8) = 24 \times 30$

$x = 8$

11)



$\frac{36}{30} = \frac{18+x}{25}$

$25 \cdot 36 = 30(18+x)$

$900 = 540 + 30x$

$360 = 30x$

$12 = x$