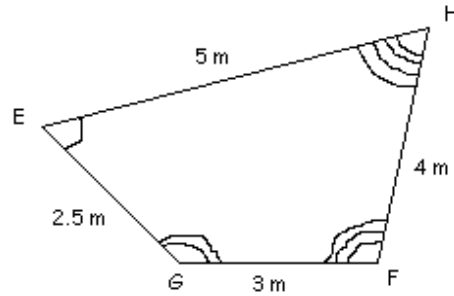
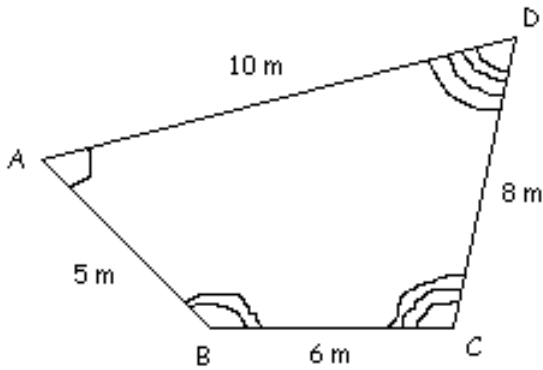


7.2 Similar Polygons

G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

Similar Polygons ⇨ _____



Similarity Statement: _____

Scale Factor ⇨ _____

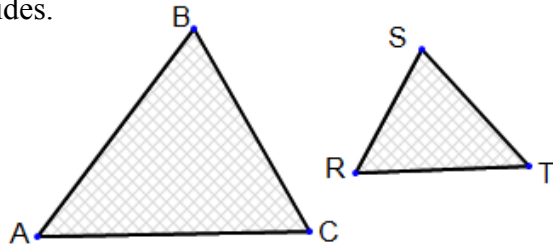
Example:

The scale factor of *polygon ABCD* to *polygon EGFH* is _____.

The scale factor of *polygon EGFH* to *polygon ABCD* is _____.

Ex 1:

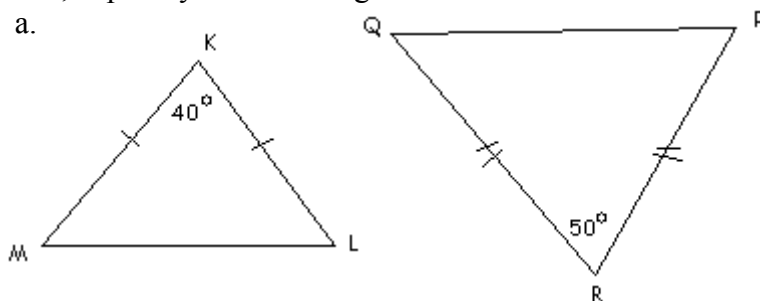
If $\triangle ABC \sim \triangle RST$, list all pairs of congruent angles and write a proportion that relates the corresponding sides.



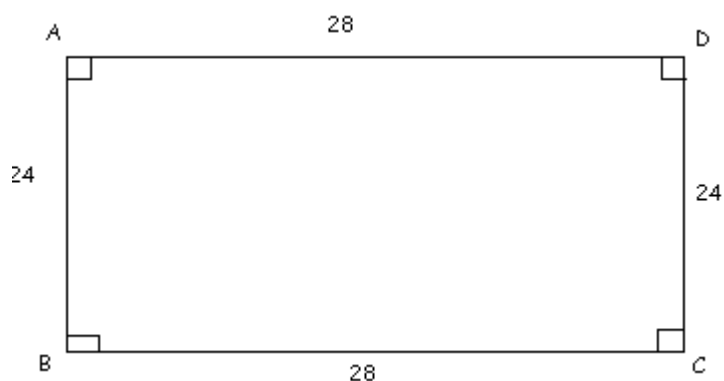
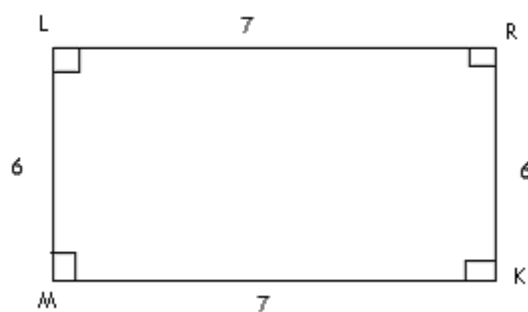
Ex 2:

Determine whether each pair of figures is similar. If so, write the similarity statement and scale factor. If not, explain your reasoning.

a.



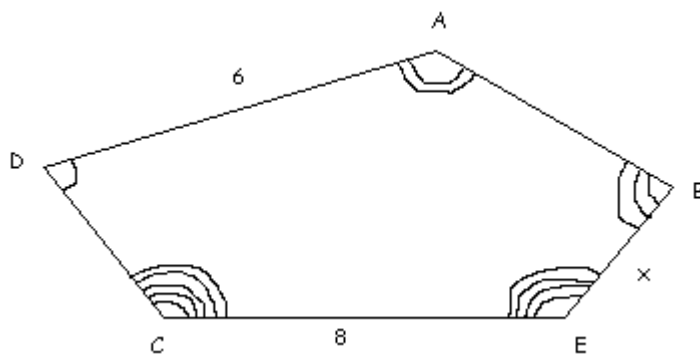
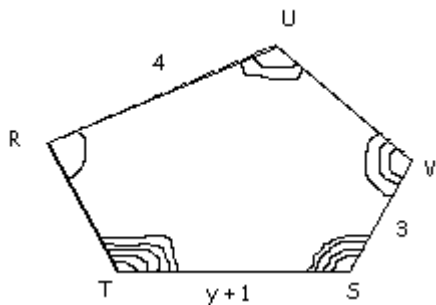
b.



Ex 3:

The two polygons are similar.

a. Find x and y .



b. Find the scale factor of polygon RUVST to DABEC.

Perimeters of Similar Polygons (Theorem 7.1)

If two polygons are similar, then their perimeters are proportional to the scale factor between them.

Ex 4:

If $\triangle LMN \sim \triangle QRS$, $QR = 40$, $RS = 41$, $SQ = 9$, and $LM = 9$, find the perimeter of $\triangle LMN$.

