

Geometry

Section 6.1

Use Similar Polygons

VOCABULARY

Similar Polygons: _____

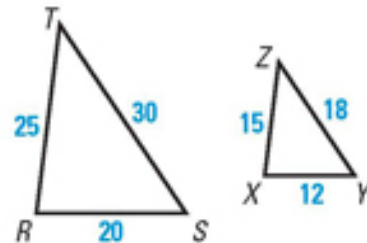
Similarity Statement: _____

Statement of Proportionality: _____

Scale Factor: _____

EXAMPLE 1 $\triangle RST \sim \triangle XYZ$

a) List ALL pairs of \cong angles.

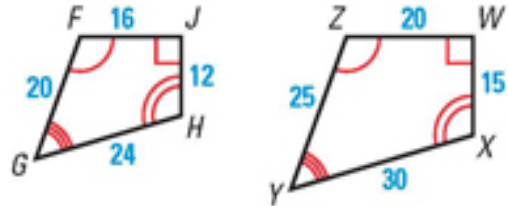


b) Show that all corresponding sides are proportional.

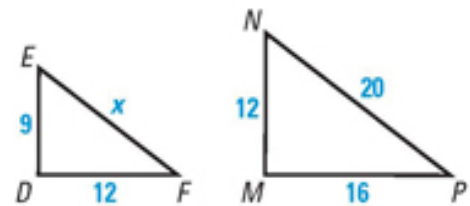
c) Write a statement of proportionality. _____

Theorem 6.1 If 2 polygons are similar, then the ratio of their perimeters is

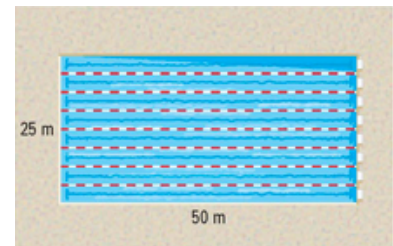
EXAMPLE 2 Determine whether the polygons are similar. If they are, write a similarity statement and find the scale factor of $ZYXW$ to $FGHJ$.



EXAMPLE 3 $\triangle DEF \sim \triangle MNP$. Find the value of x .



EXAMPLE 4 A town is building a new swimming pool. An Olympic pool is rectangular with length 50m and width 25m. The new pool will be similar in shape, but only 40m long.



- Find the scale factor of the new pool to the Olympic Pool.
- Find the perimeter of an Olympic pool and the new pool.

Perimeter of the Olympic Pool _____

Perimeter of the New Pool _____

EXAMPLE 5 $\triangle TPR \sim \triangle XPZ$. Find the length of the altitude PS .

