

Advanced Geometry
Similar Polygons

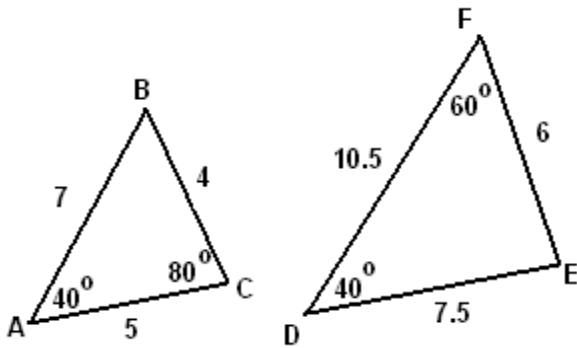
Name: _____

Definition of Similar Polygons: Two polygons are similar if one is a _____ of the other.

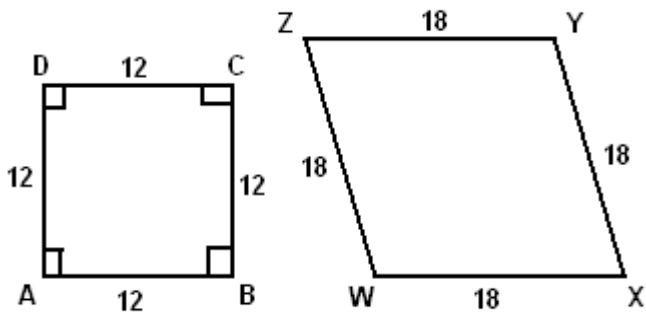
Criteria (Postulate): Two polygons are similar if and only if there is a correspondence such that:

- 1.)
- 2.)

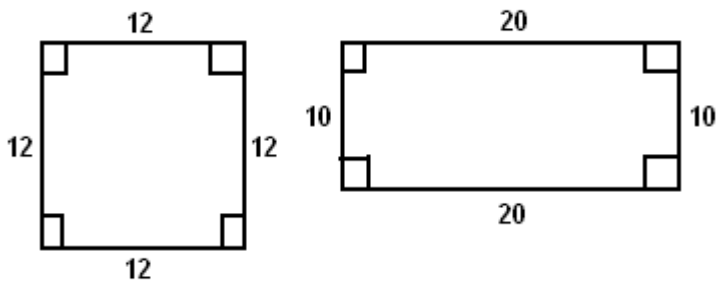
[EX 1] Are the triangles similar? Explain.



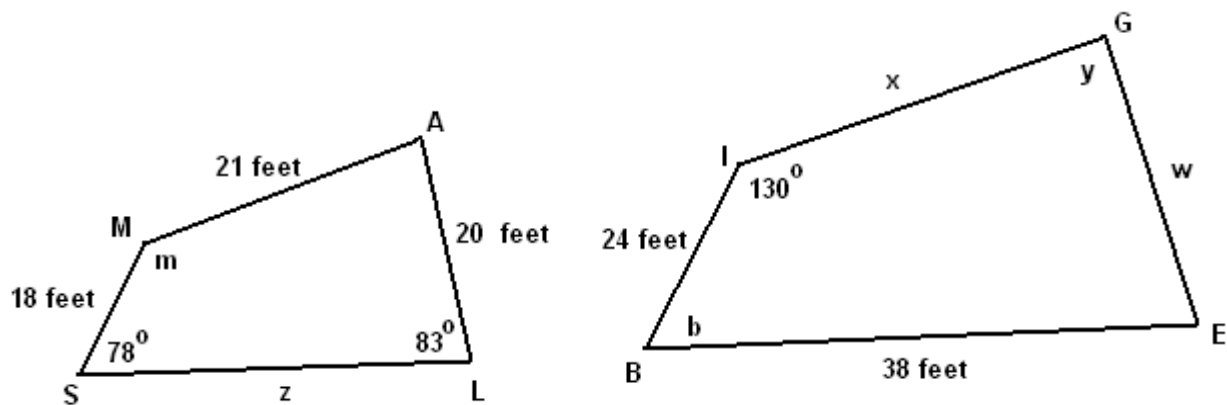
[EX 2] Are the figures similar? Explain.



[EX 3] Are the figures similar? Explain.



[EX 4] Given that $SMAL \sim BIGE$, find the values of m , n , w , x , y , and z .



[EX 5] A poster for "The Simpson's" movie is 18" wide and 24" tall. Sam wants to enlarge the poster to fit from the top to bottom of his wall (8 feet). How wide would the enlarged poster be if it is drawn to scale?

[EX 6] Estimating the size of wild animal populations is a common use of similarity by biologists. Here's what they do:

Biologists go to a lake where they catch and tag 500 fish. The fish are then released back into the lake. Several days later, they return to the lake, catch 45 fish, and notice that 8 of those fish are tagged. Approximately how many fish would the biologists guess are in the lake?