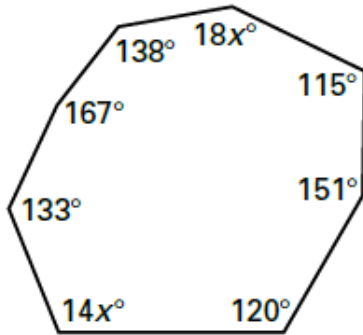


Only used when the polygon is _____

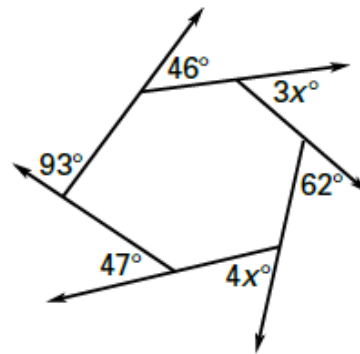
	Sum	Each Angle
Interior		
Exterior		

An Interior and Exterior Angle from a _____.

1) a) Find the value of x .



b) Find the value of x .



2) Find the measure of an interior angle and an exterior angle of the regular polygon given below:

A. Regular octagon

B. Regular 16-gon

3) A regular polygon has an exterior angle measure of $(8x+4)^\circ$ and an adjacent interior angle measure of $(42x - 24)^\circ$.

A. Find the measure of each angle.

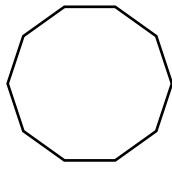
B. How many sides does this polygon have?

4) Explain the difference between irregular and regular polygons.

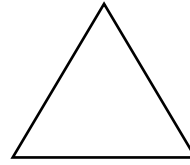
5) Complete the chart.

Classification	# Sides	Sum of Interior Angles
nonagon		
	14	
decagon		
		4320

6) a) Determine the smallest degree of rotation that will carry the regular decagon onto itself.



b) Determine the degrees of rotation that will carry the regular figure onto itself.



7) a) For two figures to be similar, the corresponding **angles** must be _____, and the corresponding **side lengths** must be _____.

b) For two figures to be congruent, the corresponding **angles** must be _____, and the corresponding **side lengths** must be _____.

8) **In the figure $HGFE \sim MLKJ$.**

A. Find the scale factor of HGFE to MLKJ. _____

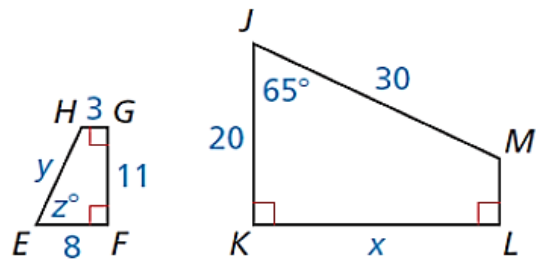
B. Find the scale factor of MLKJ to HGFE. _____

C. Find the value of x : _____

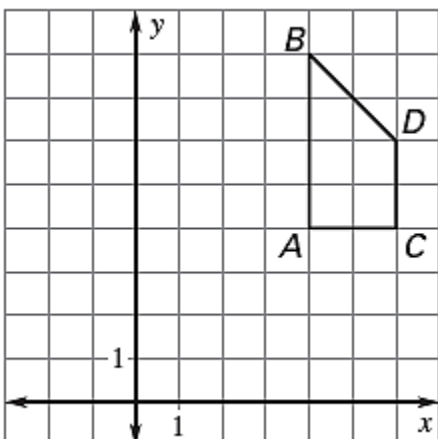
D. Find the value of y : _____

E. Find the value z : _____

F. The $m\angle M =$ _____



9)



Suppose that ABDC is similar to polygon HIJK (not pictured) after a dilation and rotation 90° counterclockwise of ABDC. H is at (3,1) and I is at (1,1).

A) Graph HIJK and identify the scale factor of ABDC to HIJK?

B) What are the coordinates of K?

C) What is the relationship (ratio) between the areas of the two polygons?

10) A rectangle has side lengths of 10 and 14. A similar rectangle might have side lengths of:

- A. 11 and 14
- B. 15 and 21
- C. 9 and 18
- D. 16 and 20

11) You are printing posters for a concert and need them to be 35'' tall. The small copy you have is 8'' wide by 10'' inches tall.

Part A: What scale factor should you use to enlarge the image and make sure the posters are proportional?

Part B: How wide will the enlarged poster be?

Part C: What relationship (ratio) do the areas of the small copy and the poster have?

12) Two polygons are similar with a scale factor of 5 to 7. The area of the smaller polygon is 60 in^2 . What is the area of the larger polygon?

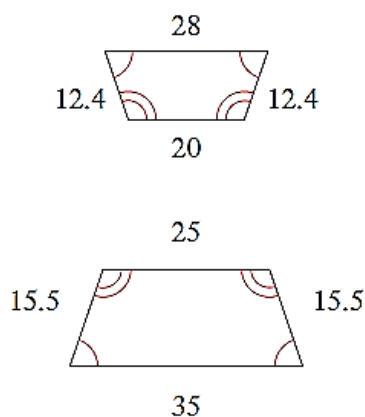
13) The areas of two similar polygons are in the ratio 25: 81. Find the ratio of the corresponding sides.

14) In table tennis, the table is a rectangle 9 feet long and 5 feet wide. A tennis court is a rectangle 78 feet long and 36 feet wide. Are the two surfaces similar? Explain. If so, find the scale factor of the tennis court to the table.

15) Quadrilateral *HALK* is congruent to quadrilateral *FORT*, if $m\angle H = 60^\circ$, $m\angle L = 152^\circ$, and $m\angle T = 42^\circ$. What is $m\angle A$?

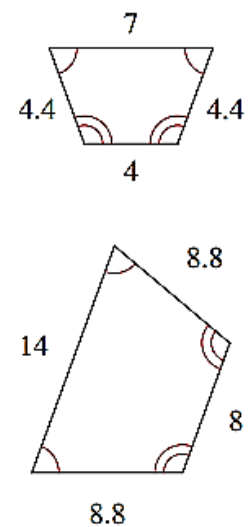
16) Identify if the polygons pictured are similar and find the scale factor of the top polygon to the bottom polygon.

A)



Explain your reasoning:

B)



Explain your reasoning: