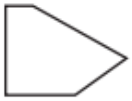
Geometry- Mrs. Tilus Name: _____
Unit 1- Worksheet #6: Classifying Polygons

Tell whether the figure is a polygon. If it is not, explain why. If it is a polygon, tell whether it is convex or concave.

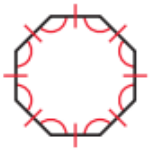
1.

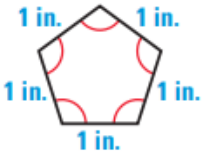
2.

3. 

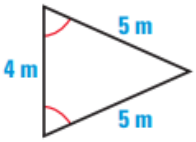
4.

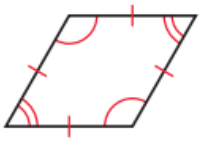
Classify the polygon by the number of sides. Tell whether the polygon is equilateral, equiangular, or regular. Explain your reasoning.

5. 

6. 

7.

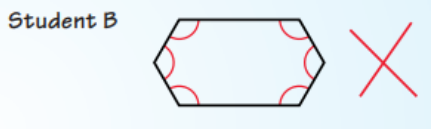
8. 

9. 

10.

Two students were asked to draw a regular hexagon, as shown below. Describe the error made by each student.

11.

12. 

13. The expressions $(9x + 5)°$ and $(11x - 25)°$ represent the measures of two angles of a regular nonagon. Find the measure of an angle of the nongon. Show your work!

14. The length (in inches) of two sides of a regular pentagon are represented by the expressions $5x - 27$ and $2x - 6$. Find the length of a side of the pentagon. Show your work!

15. Imagine that you can tie a string tightly around a polygon. If the polygon is convex, will the length of the string be equal to the distance around the polyon? What if the polygon is concave.

Tell whether the statement is always, sometimes or never true.

16. A triangle is convex

17. A decagon is regular

18. A regular polygon is equianglar

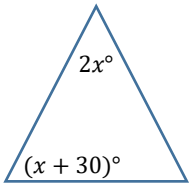
19. A circle is a polygon

20. A concave polygon is regular.

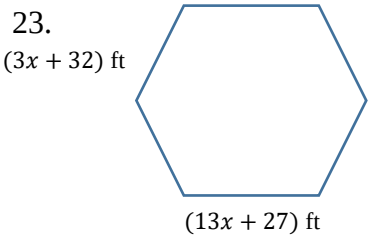
21. A regular polygon is equilateral

Each figure is a regular polygon. Find the value of x.

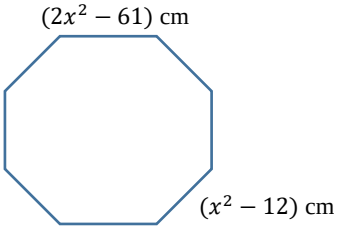
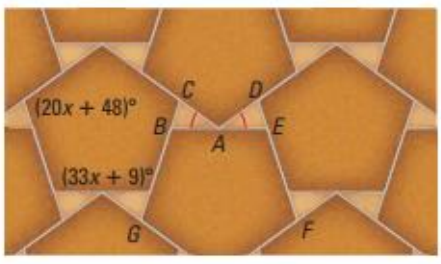
22.



23.



24.



25. Regular pentagonal tiles and triangular tiles are arranged in the the pattern shown. The pentagonal tiles are all the same size and shape and the trianglar tiles are all the same size and shape. Find the angle measures of the trianglar tiles.