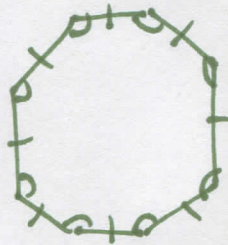


Lesson Title 7.1 Angles of Polygons NOTES

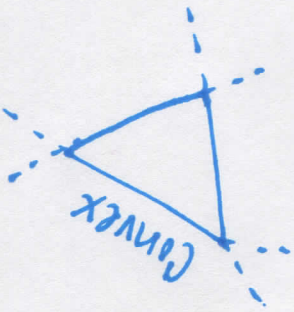
HGEO _____ Date _____

Describe a regular polygon, or draw examples:

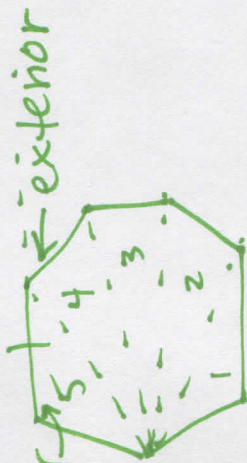
n sides = 5



Describe Convex VS Concave, or draw examples:



Describe diagonals & angles in polygons, or draw and label a heptagon:



diagonals connect nonconsecutive vertices.

Formula for sum of interior angles for any polygon:

of triangles formed by diagonals times 180
 $(n-2)(180)$

TASK 5: Application

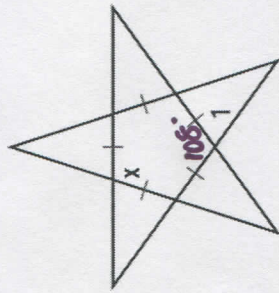
Ann is making paper stars for the valentines dance.

1) Find the value of x .

pentagon = 5 sides $\Rightarrow \frac{540^\circ}{5}$ angles
 $x = 108^\circ$

2) What is the $m\angle 1$?

$m\angle 1 + 108 = 180$
 $m\angle 1 = 72^\circ$



TASK 6: Classifying Polygons

The sum of the measures of the interior angles of a convex polygon is 1800°. Classify the polygon by the number of sides.

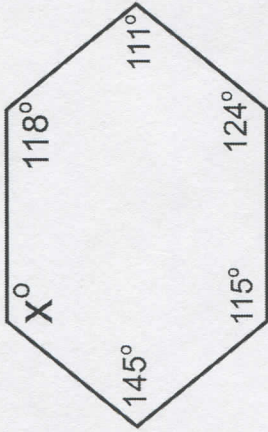
$$180(n-2) = 1800$$

$$n-2 = 10$$

$$n = 12 \rightarrow \text{dodecagon} \quad 12\text{-gon}$$

TASK 7: Finding x.

Find the value of x in the diagram.



$$\text{Hexagon} = 6 \text{ sides} \Rightarrow 720^\circ$$

$$145 + 115 + 124 + 111 + 118 + x = 720$$

$$613 + x = 720$$

$$x = 107^\circ$$

TASK 8: Exterior Angle Sum Theorem

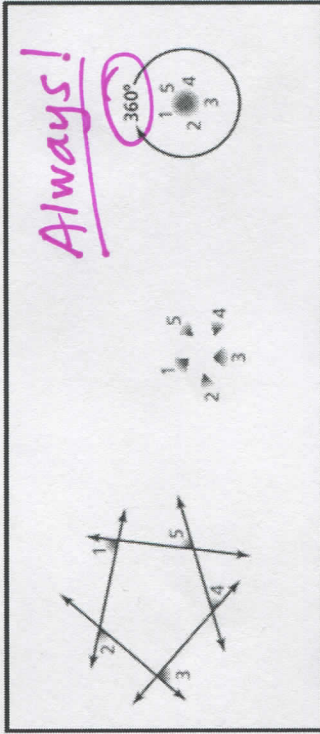
ALWAYS = 360°

Find the value of x in polygon RSTUV.

$$7x + 2x + 3x + 6x + 2x = 360$$

$$20x = 360$$

$$x = 18$$



TASK 9: ONE Interior Angle

The measure of an interior angle is 120 degrees. Find the number of sides of the polygon.

$$(n-2)(180) = 120n$$

$$180n - 360 = 120n$$

$$-180n$$

$$\frac{-360}{-60} = \frac{120n}{-60}$$

$$6 = n$$

hexagon

One interior Δ

$$\frac{(n-2)(180)}{n}$$

Still need help with: