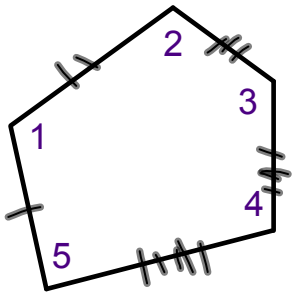
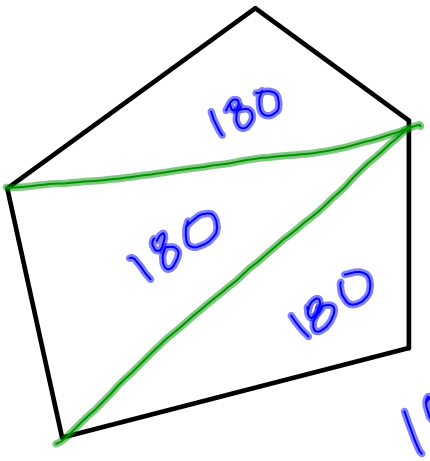
Bellwork:

Have your worksheet out and ready to turn in.

Chapter 8.1: Find Angle Measures in Polygons





$\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5 =$

$180(3)$

$540°$

Polygon Interior Angles Theorem-

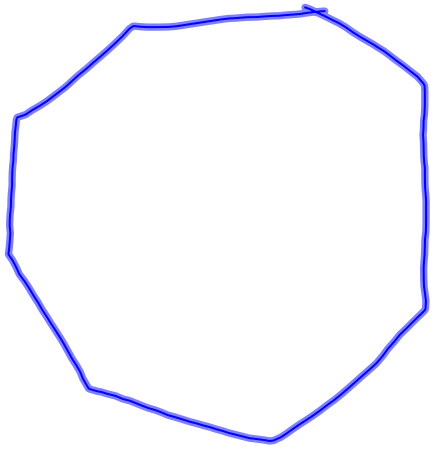
The sum of the measures of the interior angles of a convex n-gon is (n-2)x180.

Corollary- Interior Angles of a Quad

The sum of the measures of the interior angles of a quadrilateral is 360°

4 sided polygons

ex. Find the sum of the measures of the interior angles of a convex octagon.



$(n-2)180$

$(8-2)(180)$

$6(180)$

4180

6

$1080°$

ex. The sum of the measures of the interior angles of a convex polygon is 900°. Classify the polygon by sides. (names on pg.43)

$\frac{180(n-2)}{180} = \frac{900}{180}$

$n-2 = 5$

$+2 \quad +2$

$n = 7$

heptagon

$180 \times 5 = 900$

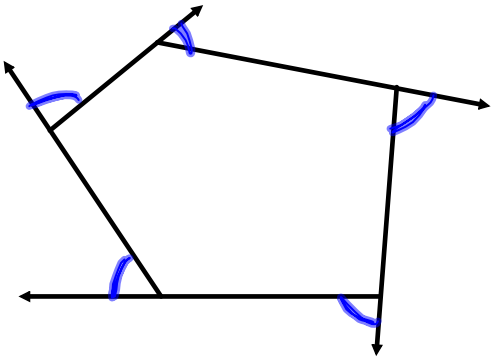
find the measure for x.

$108 + 121 + 59 + x = 360$

$288 + x = 360$

$-288 \quad -288$

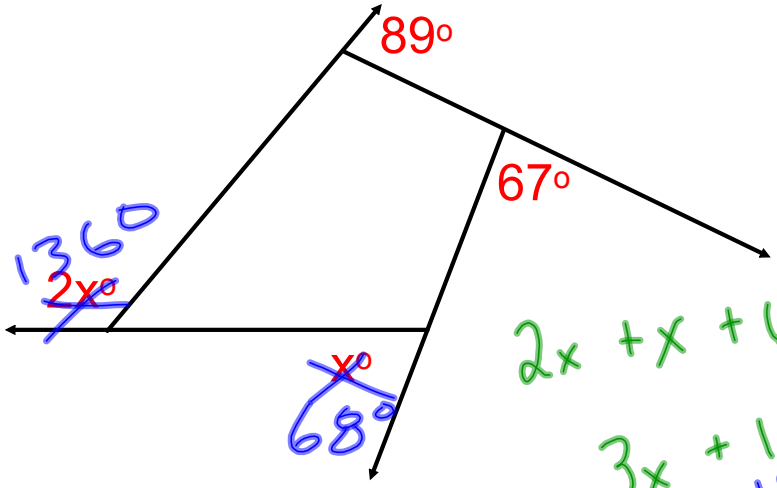
$x = 72°$



Polygon Exterior Angles Theorem-

The sum of the measures of the exterior angles of a convex polygon, one angle at each vertex, is 360°.

What is the value for x?



$2x + x + 67 + 89 = 360$

$3x + 156 = 360$

$-156 \quad -156$

$\frac{3x}{3} = \frac{204}{3}$

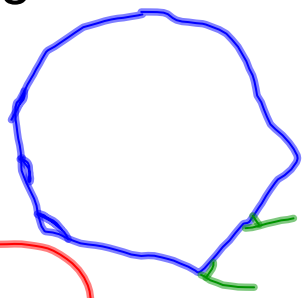
$x = 68$

ex. A trampoline is shaped like a regular dodecagon. Find the measure of an interior angle and an exterior angle.

$180(12-2)$

$180(10)$

$\frac{1800}{12} = 150°$



$\frac{360}{12} = 30°$

Homework: Ch 8.1 pg.510
#'s 4,8,12,16,18,24,28