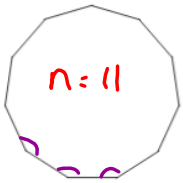
7.1 Regular Polygon Skills.Sept2020

Math 20-2
Regular Polygon Skills.

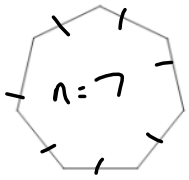
1. Find the interior angle sum for each polygon.

a)



$11(180) - 360$
$= 1620$

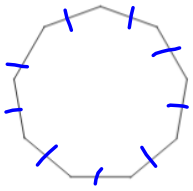
b)



sum $= 180(7) - 360$
$= 900$

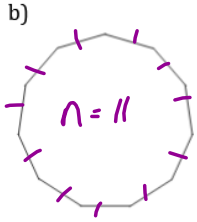
2. Find the measure of one interior angle in each regular polygon, rounded to the nearest tenth if necessary.

a)



$\theta = \frac{180(n) - 360}{n}$
$= \frac{180(9) - 360}{9} = \frac{1260}{9}$
$= 140°$

b)



$\theta = \frac{180(11) - 360}{11} = \frac{1620}{11}$
$\theta = 147.3°$

3. How many sides does the regular polygon have if each interior angles measure is:

a) 90

$\frac{90}{1} = \frac{180n - 360}{n}$

cross mult

$90n = 180n - 360$
$-90n \quad -90n$

$0 = 90n - 360$
$+360 \quad +360$

$360 = 90n$
$\div 90$

$n = 4$

b) 147.3

$\frac{147.3}{1} = \frac{180n - 360}{n}$

$147.3n = 180n - 360$
$-147.3n \quad -147.3n$

$0 = 32.7n - 360$
$+360 \quad +360$

$360 = 32.7n$
$\div 32.7$

$n = 11$