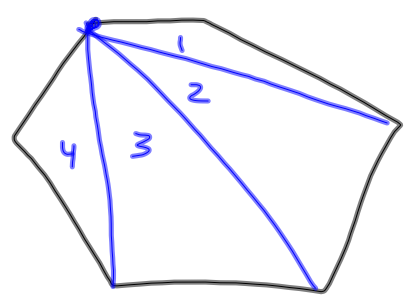
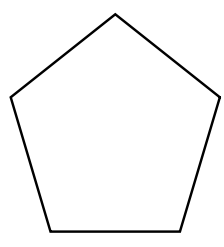


1-6-14  
5<sup>th</sup> Geo

Sum of angles in shape



$$\begin{aligned} (n-2) \cdot 180 \\ (6-2) \cdot 180 \\ 4 \cdot 180 \\ 720 \end{aligned}$$



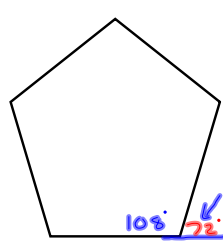
regular pentagon

What is each angle's measurement?

① method

$$\begin{aligned} (n-2) \cdot 180 \\ (5-2) \cdot 180 \end{aligned}$$

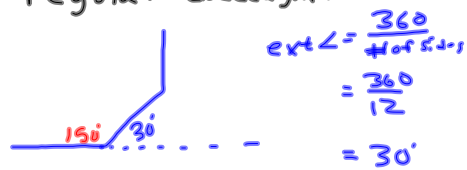
$$\frac{540}{\# \text{ sides}} = \frac{540}{5} = 108$$



exterior angle

$$\begin{aligned} \text{Exterior } \angle &= \frac{360}{\# \text{ sides}} \\ &= \frac{360}{5} = 72 \end{aligned}$$

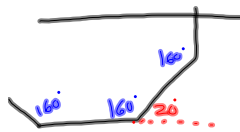
What is the interior angle of a regular dodecagon?



$$\begin{aligned} \text{ext } \angle &= \frac{360}{\# \text{ of sides}} \\ &= \frac{360}{12} \\ &= 30^\circ \end{aligned}$$

$$\begin{aligned} \frac{\text{Exterior } \angle}{1} &= \frac{360}{\# \text{ of sides}} \\ \# \text{ of sides} &= \frac{360}{\text{ext. } \angle} \end{aligned}$$

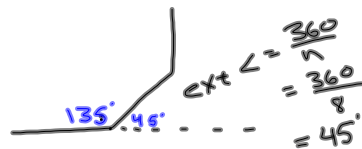
From my view I see part of a crop shape. Shape is regular and here is what I see.



How many sides is the regular polygon crop shape?

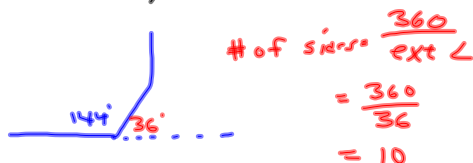
$$\begin{aligned} \# \text{ sides} &= \frac{360}{\text{ext. } \angle} \\ &= \frac{360}{20} \\ &= 18 \end{aligned}$$

How many degrees is each interior angle of an octagon? 135



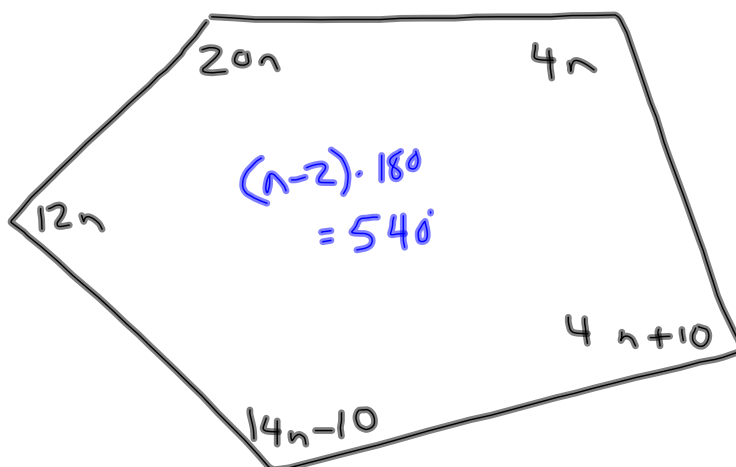
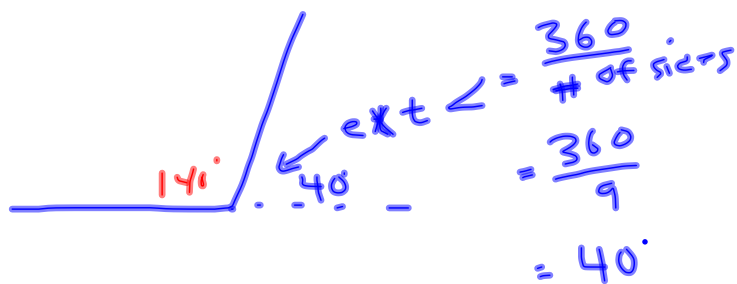
$$\begin{aligned} \text{ext } \angle &= \frac{360}{n} \\ &= \frac{360}{8} \\ &= 45^\circ \end{aligned}$$

The measure of an interior  $\angle$  of a regular polygon is 144°. How many sides does it have?



$$\begin{aligned} \# \text{ of sides} &= \frac{360}{\text{ext } \angle} \\ &= \frac{360}{36} \\ &= 10 \end{aligned}$$

How many degrees is the interior angle of a regular nonagon?



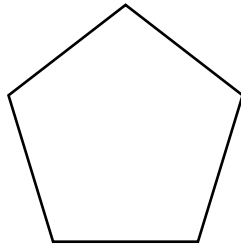
What would  $n$  be?

$$20n + 12n + 14n - 10 + 4n + 10 + 4n = 540$$

$$54n = 540$$

$$n = 10$$

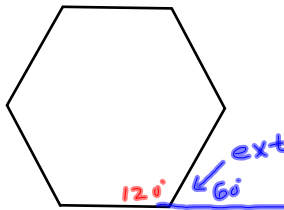
1-6-14  
6<sup>th</sup> Geo



How many degrees is each angle in this regular pentagon?

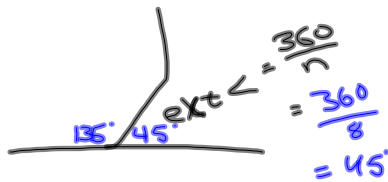
$$(n-2) \cdot 180^\circ$$
$$(5-2) \cdot 180^\circ$$

$$\frac{540^\circ}{5} = 108^\circ$$



$$\text{exterior } \angle = \frac{360}{\# \text{ sides}}$$
$$= \frac{360}{6}$$
$$= 60^\circ$$

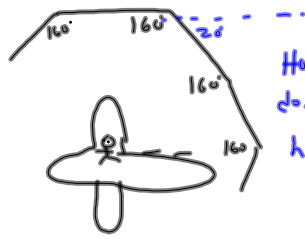
What is the interior  $\angle$  to a regular octagon?  $135^\circ$



$$\frac{\text{ext. } \angle}{1} = \frac{360}{\# \text{ of sides}}$$

$$\# \text{ of sides} = \frac{360}{\text{ext. } \angle}$$

Here is what I see looking out my airplane window



How many sides does this polygon have?

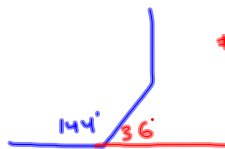
$$\begin{aligned} \# \text{ of sides} &= \frac{360}{\text{ext. } \angle} \\ &= \frac{360}{20} \\ &= 18 \end{aligned}$$

How many degrees is each interior angle of a regular dodecagon?

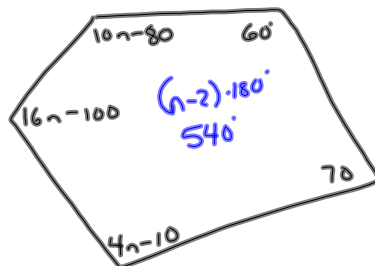


$$\begin{aligned} \text{ext } \angle &= \frac{360}{\# \text{ of sides}} \\ &= \frac{360}{12} \\ &= 30^\circ \end{aligned}$$

The measure of the interior  $\angle$  of a reg. polygon is  $144^\circ$ . How many sides does it have?



$$\begin{aligned} \# \text{ sides} &= \frac{360}{\text{ext. } \angle} \\ &= \frac{360}{36} \\ &= 10 \text{ sides} \end{aligned}$$



$$10n - 80 + 16n - 100 + 4n - 10 + 70 + 60 = 540$$

$$\begin{array}{r} 30n - 60 = 540 \\ + 60 \quad + 60 \\ \hline 30n = 600 \\ n = 20 \end{array}$$