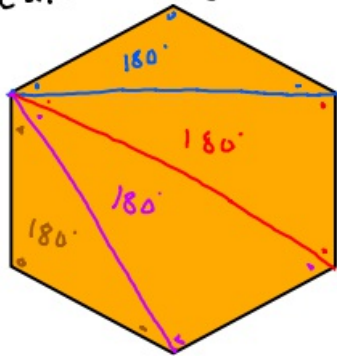


12-9-19 2<sup>nd</sup> Geo

How many degrees is inside this hexagon?



$$\begin{array}{r} 180 \\ \times 4 \\ \hline 720 \end{array}$$

Sum of all angles in a polygon =  $(n-2) \cdot 180$

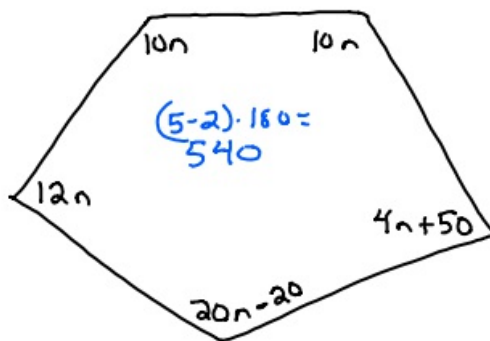
② How many total degrees is in

a.) octagon  $(8-2) \cdot 180 = 1080$

b.) decagon  $(10-2) \cdot 180 = 1440$

c.) pentagon  $(5-2) \cdot 180 = 540$

③ Find  $n$ .

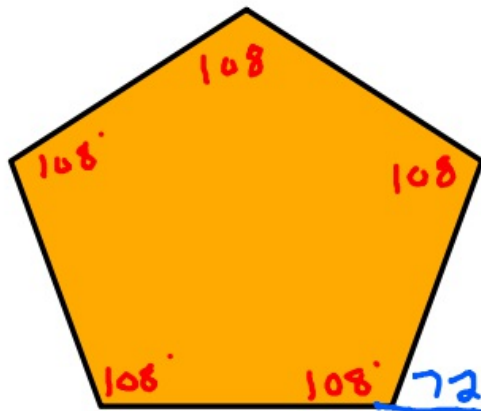


$$10n + 10n + 4n + 50 + 20n - 20 + 12n = 540$$

$$\begin{array}{r} 56n + 30 = 540 \\ -30 \quad -30 \\ \hline 56n = 510 \\ \hline 56 \quad 56 \end{array}$$

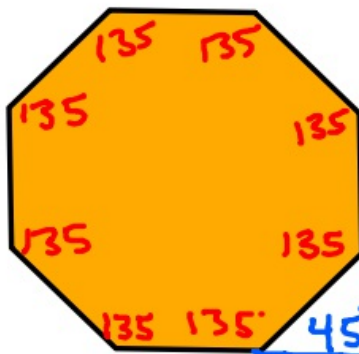
$$n \approx 9.1$$

✓



72° exterior  $\angle = \frac{360}{n}$   
 $\frac{360}{5}$

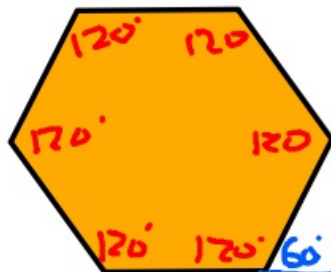
④



Find all angles of regular octagon.

$45 = \frac{360}{8}$

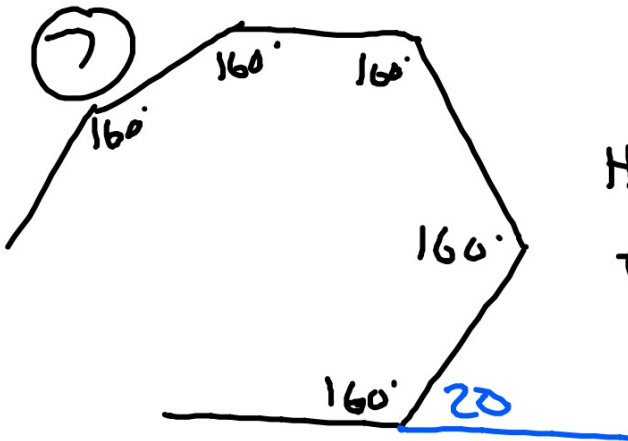
⑥



$60 = \frac{360}{6}$

$$\text{exterior } \angle = \frac{360}{n}$$

$$n = \frac{360}{\text{exterior angle}}$$



How many sides does this regular polygon have?

$$n = \frac{360}{20} = 18$$