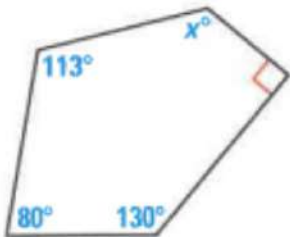


**ANGLE MEASURES** In Exercises 14–19, find the value of  $x$ .

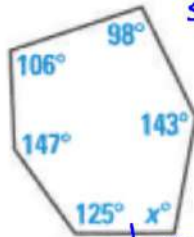
14.



$$80 + 130 + 90 + x + 113 = 540$$

$$x = 127$$

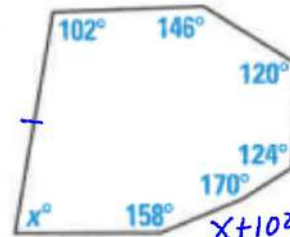
15.



$$x + 125 + 147 + 106 + 98 + 143 = 720$$

$$x = 101$$

16.



$$x + 102 + 146 + 120 + 124 + 170 + 158 = 900$$

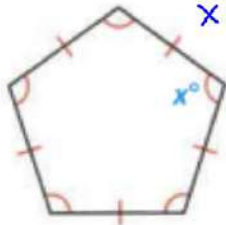
$$x + 820 = 900$$

$$x = 80$$

$$S = 180(7-2)$$

$$= 900$$

17.



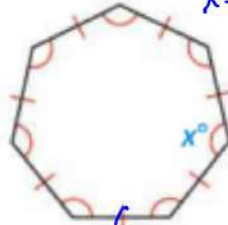
$$\frac{180(n-2)}{n}$$

$$\frac{180(5-2)}{5}$$

$$\frac{540}{5}$$

$$108$$

18.

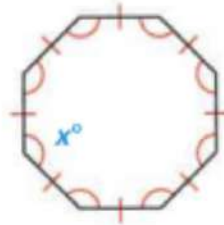


$$\frac{180(7-2)}{7}$$

$$\frac{900}{7}$$

$$128.57^\circ$$

19.



$$\frac{180(8-2)}{8}$$

$$\frac{1080}{8}$$

$$135^\circ$$

**DETERMINING NUMBER OF SIDES** In Exercises 22–25, you are given the measure of each interior angle of a regular  $n$ -gon. Find the value of  $n$ .

22.  $144^\circ$

$$\begin{aligned} & \frac{144^\circ}{n} \\ n \left( \frac{180(n-2)}{n} \right) &= (144)n \\ 180(n-2) &= 144n \\ 180n - 360 &= 144n \\ -180n & \quad -180n \\ \hline -360 &= -36n \\ -36 & \quad -36 \\ \hline 10 &= n \end{aligned}$$

23.  $120^\circ$

$$\begin{aligned} \frac{180(n-2)}{n} &= 120 \\ 180(n-2) &= 120n \\ 180n - 360 &= 120n \\ -360 &= -60n \\ n &= 6 \end{aligned}$$

24.  $140^\circ$

$$n = 9$$

25.  $157.5^\circ$

$$n = 16$$

**DETERMINING ANGLE MEASURES** In Exercises 29–32, you are given the number of sides of a regular polygon. Find the measure of each exterior angle.

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

29. 12  $\frac{360}{12} = 30^\circ$    30. 11  $\frac{360}{11} = 32.72^\circ$    31. 21  $\frac{360}{21} = 17.14^\circ$    32. 15  $\frac{360}{15} = 24^\circ$

**DETERMINING NUMBER OF SIDES** In Exercises 33–36, you are given the measure of each exterior angle of a regular  $n$ -gon. Find the value of  $n$ .

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

33.  $60^\circ$

34.  $20^\circ$

35.  $72^\circ$

36.  $10^\circ$



$n = 6$

$n = 18$

$n = 5$

$n = 36$

Steven, why is October not the 8th month?