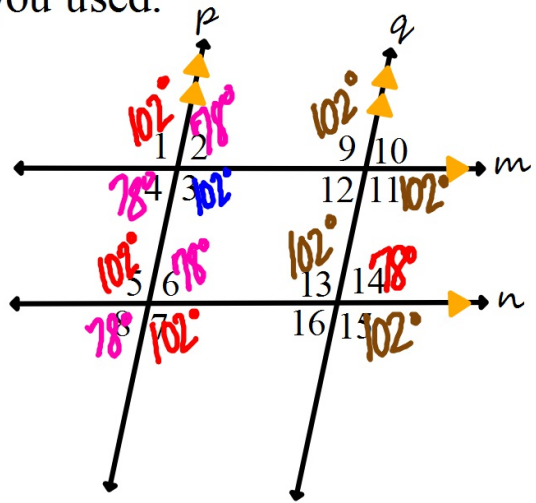


**Example:**

In the figure,  $m\angle 3 = 102$ . Find the measure of each angle. Tell which postulate(s) or theorem(s) you used.

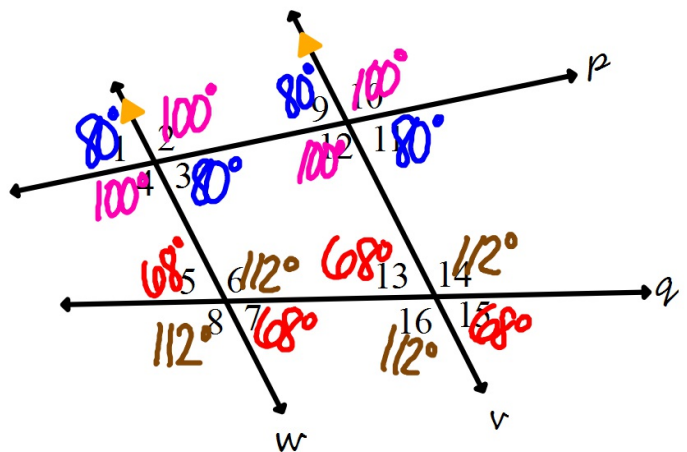
1.  $\angle 5$   $102^\circ$
2.  $\angle 6$   $78^\circ$
3.  $\angle 11$   $102^\circ$
4.  $\angle 7$   $102^\circ$
5.  $\angle 15$   $102^\circ$
6.  $\angle 14$   $78^\circ$



**Example:**

In the figure,  $m\angle 9 = 80$ , and  $m\angle 5 = 68$ . Find the measure of each angle. Tell which postulate(s) or theorem(s) you used.

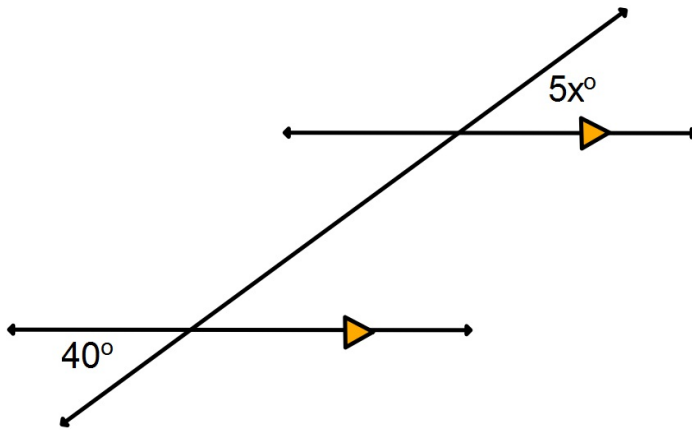
1.  $\angle 12$   $100^\circ$
2.  $\angle 1$   $80^\circ$
3.  $\angle 4$   $100^\circ$
4.  $\angle 3$   $80^\circ$
5.  $\angle 7$   $68^\circ$
6.  $\angle 16$   $112^\circ$



## Example:

Solve for each variable. Explain your reasoning.

1.

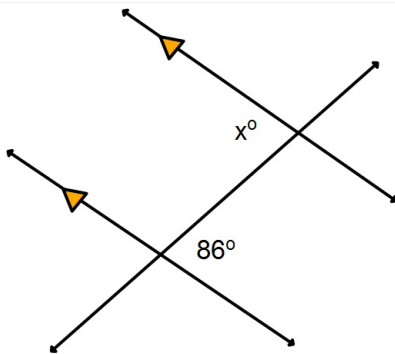


alt. exterior ( $\cong$ )

$$\frac{5x}{5} = \frac{40}{5}$$

$$\boxed{x=8}$$

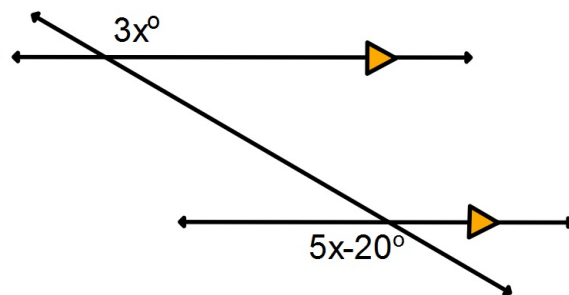
2.



alt. interior ( $\cong$ )

$$\boxed{x=86}$$

3.



alt. exterior ( $\cong$ )

$$\begin{array}{r} 3x = 5x - 20 \\ -5x \quad -5x \\ \hline -2x = -20 \\ \underline{-2} \quad \underline{-2} \\ x = 10 \end{array}$$

$$\boxed{x=10}$$