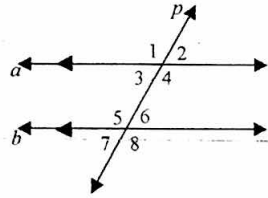


Angles Practice

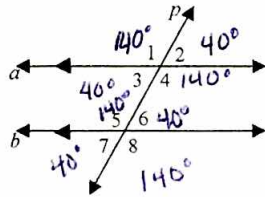
$a \parallel b$  and  $p$  is a transversal. Fill in the blanks describing the angle relationships with regard to  $\angle 3$ .

- $\angle 3$  and  $\angle$           are a linear pair
- $\angle 3$  and  $\angle$           are a linear pair
- $\angle 3$  and  $\angle$  2 are vertical angles
- $\angle 3$  and  $\angle$  7 are corresponding angles
- $\angle 3$  and  $\angle$  6 are alternate interior angles
- $\angle 3$  and  $\angle$           are consecutive interior angles

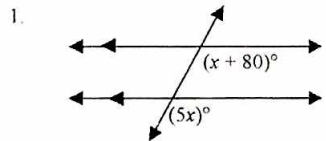


$a \parallel b$  and  $p$  is a transversal. If  $m\angle 1 = 140^\circ$ , find the measure of each angle giving one reason for each answer.

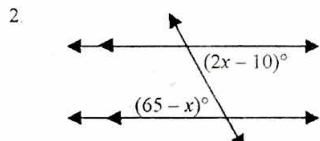
- $m\angle 2 = 40^\circ$   
Reason:  $180 - 140 = 40$ ; Supplementary vertical angle w/  $\angle 2$
- $m\angle 3 = 40^\circ$   
Reason: Alternate Interior angle w/  $\angle 4$
- $m\angle 4 = 140^\circ$   
Reason: vertical angle w/  $\angle 1$
- $m\angle 5 = 140^\circ$   
Reason: Alternate Interior angle w/  $\angle 4$
- $m\angle 6 = 40^\circ$   
Reason: Supplementary w/  $\angle 5$
- $m\angle 7 = 40^\circ$   
Reason: vertical angle w/  $\angle 6$
- $m\angle 8 = 140^\circ$   
Reason: vertical angle w/  $\angle 5$



Identify the type of angles and their relationship. Write the equation used to solve for  $x$ . Then, find the value of  $x$ . Put a box around your answer.

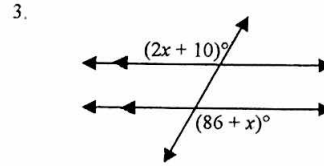


type of angles: Corresponding  
relationship: Congruent  
equation:  $x + 80 = 5x$

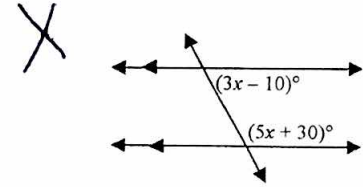


type of angles: Alternate Interior  
relationship: Congruent  
equation:  $65 - x = 2x - 10$

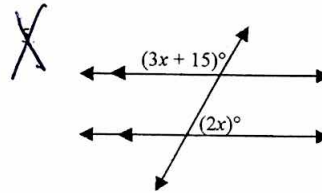
Identify the type of angles and their relationship. Write the equation used to solve for  $x$ . Then, find the value of  $x$ . Put a box around your answer.



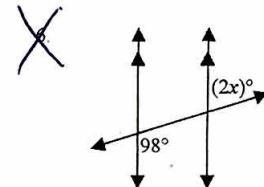
type of angles: Alt. Exterior  
relationship: Congruent  
equation:  $2x + 10 = 86 + x$



~~type of angles: \_\_\_\_\_  
relationship: \_\_\_\_\_  
equation: \_\_\_\_\_~~

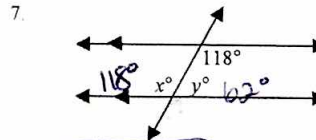


~~type of angles: \_\_\_\_\_  
relationship: \_\_\_\_\_  
equation: \_\_\_\_\_~~



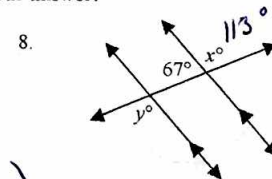
~~type of angles: Alt. Exterior  
relationship: \_\_\_\_\_  
equation: \_\_\_\_\_~~

Find the values of  $x$  and  $y$ . Put a box around your answer.



$118^\circ = x^\circ$  (alt interior w/  $118^\circ$ )

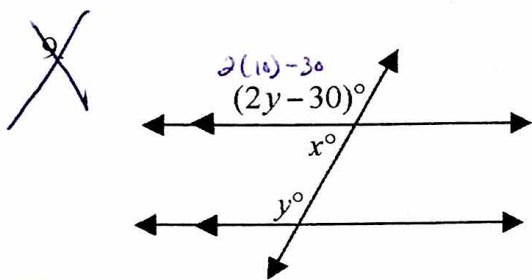
$y = 180 - 118$   
 $y = 62^\circ$



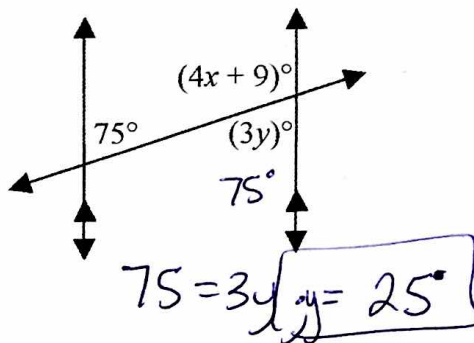
$x = 180 - 67$   
 $x = 113^\circ$

$y = 113^\circ$  (alt exterior w/  $\angle x$ )

Find the values of  $x$  and  $y$ . Put a box around your answer.



10.



$$\begin{aligned} 2y - 30 &= y \\ -2y & \quad -2y \\ \hline -30 &= -3y \\ -3 & \quad -3 \\ \hline y &= 10^\circ \end{aligned}$$

$$\begin{aligned} 180 - 2y - 30 &= x \\ 150 - 2y &= x \end{aligned}$$

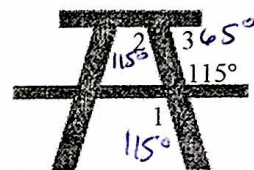
$$\begin{aligned} 75 &= 3y \\ y &= 25^\circ \end{aligned}$$

$$\begin{aligned} 4x + 9 &= 75 \\ -9 & \quad -9 \\ \hline 4x &= 66 \\ \frac{4x}{4} & \quad \frac{66}{4} \\ x &= 16.5 \end{aligned}$$

11. Use the diagram of the picnic table to answer the questions.

$$m\angle 1 = 115^\circ \quad m\angle 2 = 115^\circ \quad m\angle 3 = 65^\circ$$

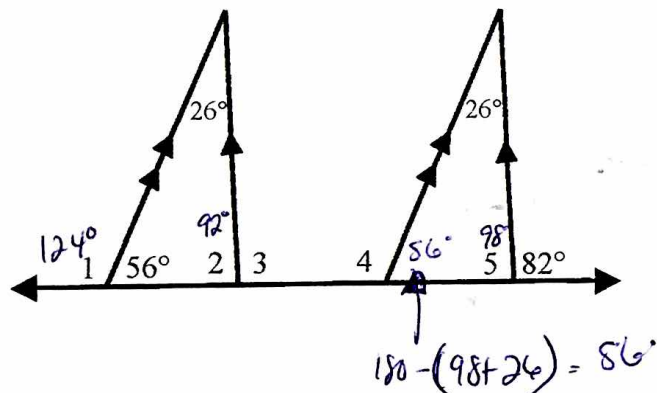
$$180 - 115$$



12. Find the measure of all of the numbered angles.

$$\begin{aligned} m\angle 1 &= 124^\circ \\ 180 - 56 & \\ m\angle 3 &= 88^\circ \\ 180 - 92 & \\ m\angle 5 &= 98^\circ \\ 180 - 82 & \end{aligned}$$

$$\begin{aligned} m\angle 2 &= 92^\circ \\ 180 - (26 + 56) & \\ m\angle 4 &= 124^\circ \\ 180 - 56 & \end{aligned}$$



In the diagram,  $\overline{AB} \parallel \overline{EC}$ ,  $m\angle 1 = 58^\circ$ ,  $m\angle 2 = 47^\circ$  and  $m\angle 3 = 26^\circ$ . Find the measure of each angle.

13.  $m\angle 7 = 56^\circ$   
 $180 - (75 + 49) = 56^\circ$

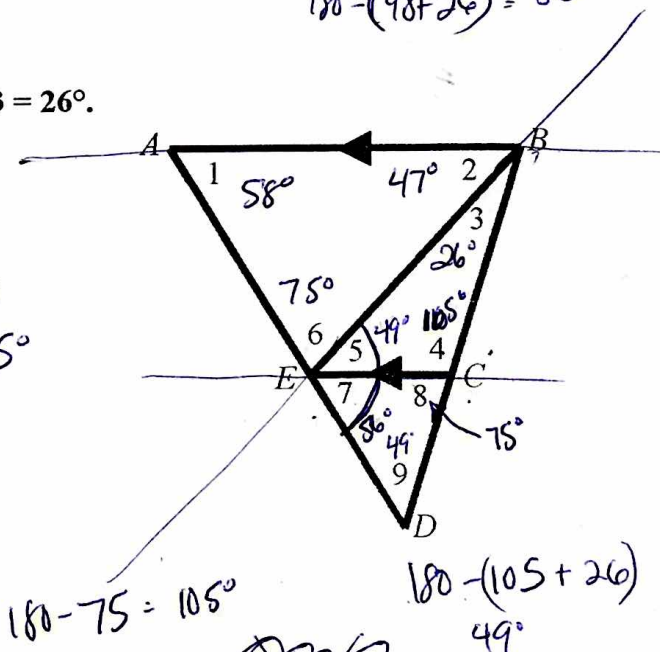
14.  $m\angle 5 = 49^\circ$   
 $180 - (26 + 105) = 49^\circ$

15.  $m\angle 6 = 75^\circ$   
 $180 - (58 + 47)$

16.  $m\angle 4 = 105^\circ$   
 $180 - 75 = 105^\circ$

17.  $m\angle 8 = 75^\circ$

18.  $m\angle 9 = 49^\circ$



(Alt. Interior w/k6)

$$180 - 75 = 105^\circ$$

$$180 - (105 + 26) = 49^\circ$$