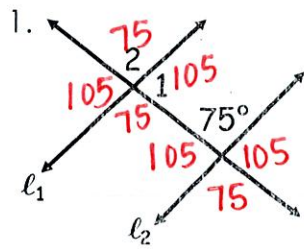
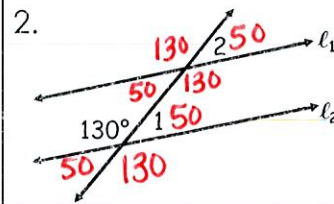


Day 3 – Lines and Transversals

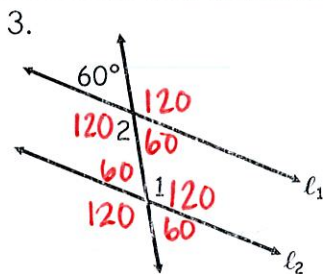
In problems 1 – 4, assume that $l_1 \parallel l_2$. Find the measures of $\angle 1$ and $\angle 2$.



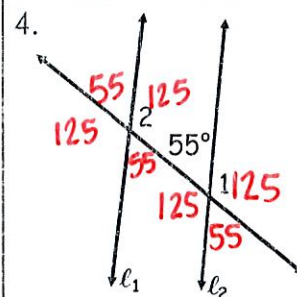
$\angle 1 = 105^\circ$
 $\angle 2 = 75^\circ$



$\angle 1 = 50^\circ$
 $\angle 2 = 130^\circ$



$\angle 1 = 120^\circ$
 $\angle 2 = 60^\circ$

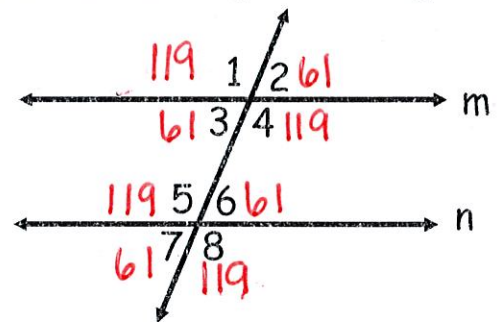


$\angle 1 = 125^\circ$
 $\angle 2 = 55^\circ$

5. Given $m \parallel n$ and $m\angle 8 = 119^\circ$, find the measures of all the numbered angles in the figure.

$m\angle 1 = 119^\circ$, $m\angle 2 = 61^\circ$, $m\angle 3 = 61^\circ$

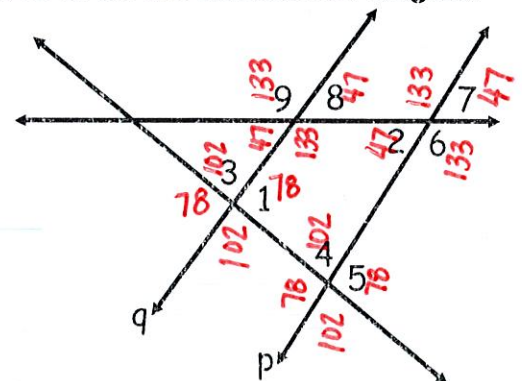
$m\angle 4 = 119^\circ$, $m\angle 5 = 119^\circ$, $m\angle 6 = 61^\circ$, $m\angle 7 = 61^\circ$



6. Given $p \parallel q$, $m\angle 1 = 78^\circ$, and $m\angle 2 = 47^\circ$, find the measures of all the numbered angles.

$m\angle 3 = 102^\circ$, $m\angle 4 = 102^\circ$, $m\angle 5 = 78^\circ$, $m\angle 6 = 133^\circ$

$m\angle 7 = 47^\circ$, $m\angle 8 = 47^\circ$, $m\angle 9 = 133^\circ$



In problems 7 – 10, assume $a \parallel b$. Find the value of x .

7.

$$\begin{aligned} 3x - 50 &= 2x - 5 \\ -2x &\quad -2x \\ \hline x - 50 &= -5 \\ +50 &\quad +50 \\ \hline x &= 45 \end{aligned}$$

8.

$$\begin{aligned} 2x + 8x + 12 &= 180 \\ 10x + 12 &= 180 \\ -12 &\quad -12 \\ \hline 10x &= 168 \\ \frac{10x}{10} &= \frac{168}{10} \\ x &= 16.8 \end{aligned}$$

9.

$$\begin{aligned} 4x + 22 &= 90 \\ -22 &\quad -22 \\ \hline 4x &= 68 \\ \frac{4x}{4} &= \frac{68}{4} \\ x &= 17 \end{aligned}$$

10.

$$\begin{aligned} 3x - 9 + 57 &= 180 \\ 3x + 48 &= 180 \\ -48 &\quad -48 \\ \hline 3x &= 132 \\ \frac{3x}{3} &= \frac{132}{3} \\ x &= 44 \end{aligned}$$

In problems 11 & 12, $\overline{AB} \parallel \overline{CD}$, find the measure of each numbered angle.

11.

$$\begin{aligned} \angle 1 &= 60^\circ \\ \angle 2 &= 120^\circ \\ \angle 3 &= 120^\circ \\ \angle 4 &= 60^\circ \end{aligned}$$

12.

$$\begin{aligned} \angle 1 &= 45^\circ \\ \angle 2 &= 90^\circ \\ \angle 3 &= 90^\circ \end{aligned}$$

Jane and Opal were playing around with straws after lunch. They made the designs below with parallel straws. Find the missing variables.

13. Jane's Design:

$$\begin{aligned} x &= 135^\circ \\ y &= 70^\circ \\ z &= 110^\circ \end{aligned}$$

14. Opal's Design:

$$\begin{aligned} x &= 70 + 40 \\ x &= 110^\circ \end{aligned}$$