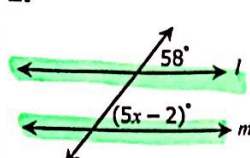


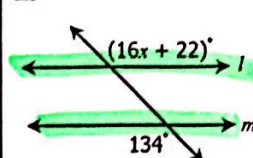
Parallel Lines, Transversals, and Algebra!

Directions: If $l \parallel m$, find the value of each missing variable(s).

1.  $5x - 2 = 58$

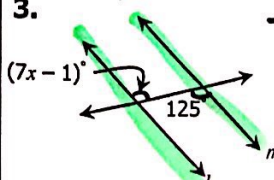
$$\begin{array}{r} 5x - 2 = 58 \\ + 2 \quad + 2 \\ \hline 5x = 60 \\ \frac{5x}{5} = \frac{60}{5} \\ \hline x = 12 \end{array}$$

 Corresp \cong $x = 12$

2.  $16x + 22 = 134$

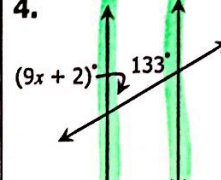
$$\begin{array}{r} 16x + 22 = 134 \\ - 22 \quad - 22 \\ \hline 16x = 112 \\ \frac{16x}{16} = \frac{112}{16} \\ \hline x = 7 \end{array}$$

 alt. ext \cong $x = 7$

3.  $7x - 1 = 125$

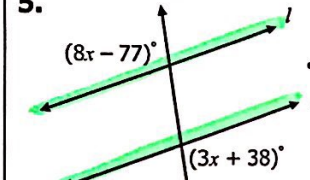
$$\begin{array}{r} 7x - 1 = 125 \\ + 1 \quad + 1 \\ \hline 7x = 126 \\ \frac{7x}{7} = \frac{126}{7} \\ \hline x = 18 \end{array}$$

 alt. int \cong $x = 18$

4.  $9x + 2 + 133 = 180$

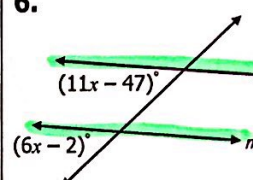
$$\begin{array}{r} 9x + 2 + 133 = 180 \\ 9x + 135 = 180 \\ - 135 \quad - 135 \\ \hline 9x = 45 \\ \frac{9x}{9} = \frac{45}{9} \\ \hline x = 5 \end{array}$$

 SST $= 180$ $x = 5$

5.  $8x - 77 = 3x + 38$

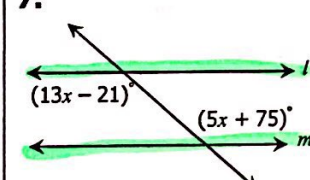
$$\begin{array}{r} 8x - 77 = 3x + 38 \\ - 3x \quad - 3x \\ \hline 5x - 77 = 38 \\ \frac{77}{1} \quad + 77 \\ \hline 5x = 115 \\ \frac{5x}{5} = \frac{115}{5} \\ \hline x = 23 \end{array}$$

 alt. ext \cong $x = 23$

6.  $11x - 47 = 6x - 2$

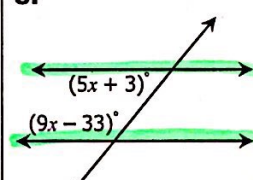
$$\begin{array}{r} 11x - 47 = 6x - 2 \\ - 6x \quad - 6x \\ \hline 5x - 47 = -2 \\ + 47 \quad + 47 \\ \hline 5x = 45 \\ \frac{5x}{5} = \frac{45}{5} \\ \hline x = 9 \end{array}$$

 corresp \cong $x = 9$

7.  $13x - 21 = 5x + 75$

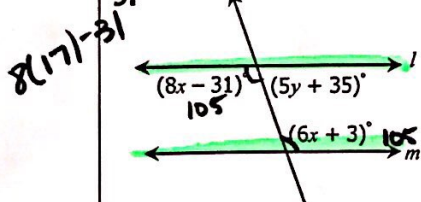
$$\begin{array}{r} 13x - 21 = 5x + 75 \\ - 5x \quad - 5x \\ \hline 8x - 21 = 75 \\ + 21 \quad + 21 \\ \hline 8x = 96 \\ \frac{8x}{8} = \frac{96}{8} \\ \hline x = 12 \end{array}$$

 alt. int \cong $x = 12$

8.  $9x - 33 + 5x + 3 = 180$

$$\begin{array}{r} 9x - 33 + 5x + 3 = 180 \\ 14x - 30 = 180 \\ + 30 \quad + 30 \\ \hline 14x = 210 \\ \frac{14x}{14} = \frac{210}{14} \\ \hline x = 15 \end{array}$$

 SST $= 180$ $x = 15$

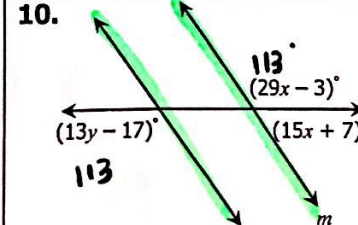
9.  $8x - 31 = 6x + 3$

$$\begin{array}{r} 8x - 31 = 6x + 3 \\ - 6x \quad - 6x \\ \hline 2x - 31 = 3 \\ + 31 \quad + 31 \\ \hline 2x = 34 \\ \frac{2x}{2} = \frac{34}{2} \\ \hline x = 17 \end{array}$$

 8(17) = 31

$5y + 35 + 105 = 180$
 $5y + 140 = 180$

$$\begin{array}{r} 5y + 140 = 180 \\ - 140 \quad - 140 \\ \hline 5y = 40 \\ \frac{5y}{5} = \frac{40}{5} \\ \hline y = 8 \end{array}$$

10.  $29x - 3 + 15x + 7 = 180$

$$\begin{array}{r} 29x - 3 + 15x + 7 = 180 \\ 44x + 4 = 180 \\ - 4 \quad - 4 \\ \hline 44x = 176 \\ \frac{44x}{44} = \frac{176}{44} \\ \hline x = 4 \end{array}$$

$13y - 17 = 113$

$$\begin{array}{r} 13y - 17 = 113 \\ + 17 \quad + 17 \\ \hline 13y = 130 \\ \frac{13y}{13} = \frac{130}{13} \\ \hline y = 10 \end{array}$$