

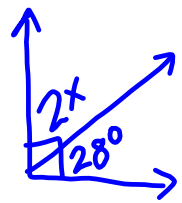
Find the value of x

These questions will ask you to solve a 2-step equation

1. Ask: Are the two angles Complementary (=90) or Supplementary (=180)? (OR Are they vertical angles (which means they are congruent/equal to each other))
2. Set up an equation by adding the two given angles together and setting it equation to either 90 or 180
3. Solve for x


Find the value of x

①



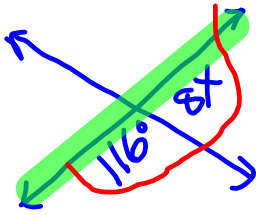
$$\begin{array}{r}
 2x + 28 = 90 \\
 -28 \quad -28 \\
 \hline
 2x = 62 \\
 \frac{2x}{2} = \frac{62}{2} \\
 \boxed{x = 31}
 \end{array}$$

②



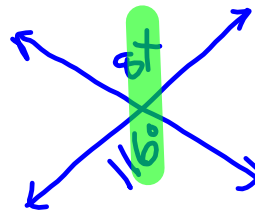
$$\begin{array}{r}
 3x + 123 = 180 \\
 -123 \quad -123 \\
 \hline
 3x = 57 \\
 \frac{3x}{3} = \frac{57}{3} \\
 \boxed{x = 19}
 \end{array}$$

②



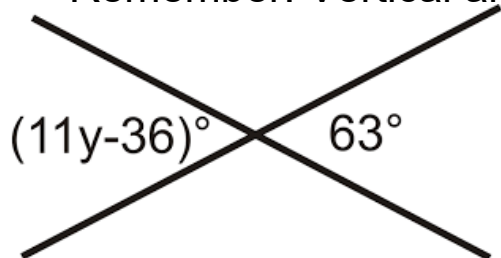
$$\begin{array}{r}
 116 + 8x = 180 \\
 -116 \quad -116 \\
 \hline
 8x = 64 \\
 \frac{8x}{8} = \frac{64}{8} \\
 \boxed{x = 8}
 \end{array}$$

④

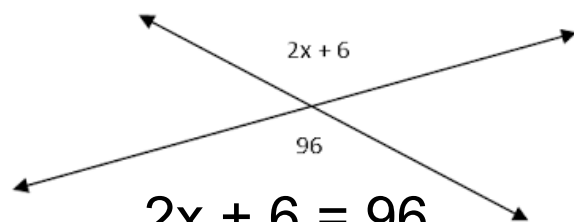


$$\begin{array}{r}
 116 = 8x \\
 \frac{116}{8} = \frac{8x}{8} \\
 x = 14.5
 \end{array}$$

Remember: Vertical angles are CONGRUENT (Equal)

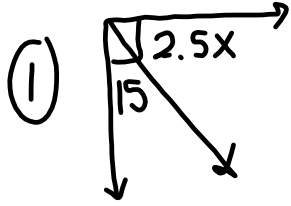


$$\begin{array}{r}
 11y - 36 = 63 \\
 +36 \quad +36 \\
 \hline
 11y = 99 \\
 \frac{11y}{11} = \frac{99}{11} \\
 y = 9
 \end{array}$$

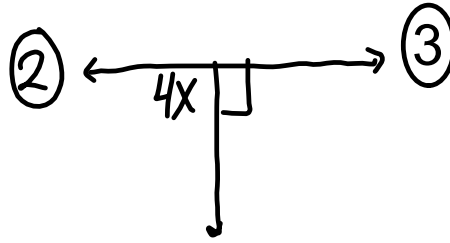


$$\begin{array}{r}
 2x + 6 = 96 \\
 -6 \quad -6 \\
 \hline
 2x = 90 \\
 \frac{2x}{2} = \frac{90}{2} \\
 x = 45
 \end{array}$$

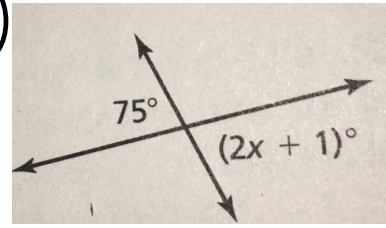
ON OWN:



$$\begin{array}{r}
 15 + 2.5x = 90 \\
 -15 \quad -15 \\
 \hline
 2.5x = 75 \\
 \frac{2.5}{2.5} \quad \frac{2.5}{2.5} \\
 \hline
 \boxed{x = 30}
 \end{array}$$



$$\begin{array}{r}
 4x + 90 = 180 \\
 -90 \quad -90 \\
 \hline
 4x = 90 \\
 \frac{4}{4} \quad \frac{4}{4} \\
 \hline
 \boxed{x = 22.5}
 \end{array}$$



$$\begin{array}{r}
 2x + 1 = 75 \\
 -1 \quad -1 \\
 \hline
 2x = 74 \\
 \frac{2}{2} \quad \frac{2}{2} \\
 \hline
 x = 37
 \end{array}$$