

Solve the follow system by substitution

$$y = 2x - 2 \quad \leftarrow 2x - 2 \text{ is what } y \text{ equals}$$

$$6x + 2y = 16$$

$$6x + 2(2x - 2) = 16 \quad \leftarrow \text{Plug in } 2x - 2 \text{ for } y$$

$$6x + 4x - 4 = 16 \quad \leftarrow \text{distribute the } 2$$

$$10x - 4 = 16$$

$$10x = 20$$

\leftarrow collecting like terms

$$x = 2$$

\leftarrow divide both sides by 10

$$y = 2(2) - 2 \quad \leftarrow \text{Substitute } 2 \text{ in for } x \text{ in } y = 2x - 2$$

$$y = 4 - 2 \quad \leftarrow \text{Multiply}$$

$$y = 2$$

$$\begin{pmatrix} 2, 2 \\ x, y \end{pmatrix} \quad \leftarrow \text{solution}$$