

Solve the linear system using Cramer's rule

$$2x + 4y = 1$$

$$x + y = 2$$

$$\begin{bmatrix} 2 & 4 \\ 1 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$$

$$\begin{vmatrix} 2 & 4 \\ 1 & 1 \end{vmatrix} = -2$$

$$x = \frac{7}{2}$$

$$\begin{vmatrix} 1 & 4 \\ 2 & 1 \end{vmatrix} = -7$$

$$y = -\frac{3}{2}$$

$$\begin{vmatrix} 2 & 1 \\ 1 & 2 \end{vmatrix} = 3$$