Ex. 1

Substitution Method

$$2x + 3y = 5$$
$$x - 5y = 9$$

$$x = 5y + 9$$

$$(4, -1)$$

$$2(5y + 9) + 3y = 5$$
$$13y + 18 = 5$$

$$y = -1 \quad x = 4$$

Ex. 2   Linear Combination Method

$$2(5x + 3y = -9)$$
$$-5(2x - 5y = -16)$$

$$\overline{31y = 62}$$

$$(-3, 2) \quad y = 2$$
$$x = -3$$

$$3\left(\frac{1}{x\left(\frac{2}{3}\right)} - \frac{1}{y} = 5\right)$$

$$\left(\frac{5}{x} + \frac{3}{y} = -3\right)$$

$$\frac{3}{x} - \frac{3}{y} = 15$$

$$\frac{5}{x} + \frac{3}{y} = -3$$

$$\frac{8}{x} = \frac{12}{x}$$

$$\frac{8}{12} = \frac{x}{1}$$

$$2y\left(\frac{3}{2} - \frac{1}{y} = 5\right)$$

$$3y - 2 = 10y$$

$$y = -\frac{2}{7}$$

$$\left(\frac{2}{3}, -\frac{2}{7}\right)$$

$$x = \frac{2}{3}$$