Solve by Substitution

$$3x + 5y = 19 \quad (1)$$
$$2x + 3y = 12 \quad (2)$$

label!

Rearrange equ. (1) ← what is going to be done

$$3x + 5y = 19$$
$$3x = 19 - 5y$$
$$x = \frac{19}{3} - \frac{5}{3}y \quad (1a)$$

(1a) ← label

Substitute equ. (1a) into (2)

$$2x + 3y = 12$$
$$2\left[\frac{19}{3} - \frac{5}{3}y\right] + 3y = 12$$
$$\frac{38}{3} - \frac{10}{3}y + 3y = 12$$
$$-\frac{10}{3}y + \frac{9}{3}y = \frac{36}{3} - \frac{38}{3}$$
$$-\frac{1}{3}y = -\frac{2}{3}$$

Box answer.

$$\boxed{y = 2}$$

Back substitute into equation (1a)

$$x = \frac{19}{3} - \frac{5}{3}y = \frac{19}{3} - \frac{5}{3}(2) = \frac{19}{3} - \frac{10}{3} = \frac{9}{3} = 3$$

$$\boxed{x = 3}$$