In 2 Δs TFE & TAO sharing same vertex T:

(FE) // (AO) (given)

T, F & A And T, E & O are collinear in this order (given)

use Thale's property: (A st line drawn parallel to one side of a Δ divides the other 2 proportionally)

$$\frac{TF}{TA} = \frac{TE}{TO} = \frac{FE}{AO}$$

① ②

$$\frac{x}{4} = \frac{5-y}{5}$$ (using ratios 1 & 2) ✓

$$x = \frac{20}{5} - \frac{4y}{5}$$

$$x = -\frac{4y}{5} + 4$$ ③ if in terms of x.

in terms of y:

$$\frac{5x}{4} = 5 - y$$

$$y = -\frac{5x}{4} + 5$$ ④ if in terms of y ✓

Ex 2

17 $\begin{cases} 5x + 2y = 12{,}000 & -- ① \\ (3x + 6y = 24{,}000) \times (-\frac{1}{3}) \end{cases}$ ②

OR you can simply replace the coordinates of the couple in each eqn of the system & prove that it satisfies both

$$\begin{cases} 5x + 2y = 12{,}000 \\ -x - 2y = -8{,}000 \end{cases}$$ add

$$4x = 4{,}000$$

$$x = 1{,}000$$ ... Replace in eqn ①

$$5x + 2y = 12{,}000$$

$$5{,}000 + 2y = 12000$$

$$2y = 7{,}000$$

$$y = \frac{7{,}000}{2}$$

$$y = 3{,}500$$ ③

The ordered pair (1000, 3500) is a soln for the given system