

Qwe 3 (System Word Problems)

① $x = \# \text{ of shirts}$ } variables
 $y = \text{Total cost}$ }

$y = 9.65x + 43$ } Equations
 $y_2 = 8.40x + 58$ }

Comparison → Method

$y_1 = y_2$

$-8.40x + 9.65x + 43 = 8.40x + 58 + 43$

$9.65x - 8.40x = 58 - 43$

$\frac{1.25x}{1.25} = \frac{15}{1.25}$

$x = 12$

$y_1 = 9.65(12) + 43$
 $y_1 = 158.8$

$y_2 = 8.40(12) + 58$
 $y_2 = 158.8$

∴ for same cost, you need to buy 12 shirts

② $y = \text{length}$ } variables
 $x = \text{width}$ }

$y = 2x + 10$
 $2y + 2x = 110 \rightarrow y = -x + 55$ } Equations

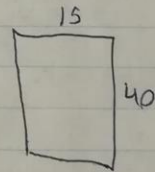
Comparison: $y_1 = y_2 \rightarrow \text{method}$

$x + 2x + 10 = -x + 55 - 10$

$\frac{3x}{3} = \frac{45}{3}$

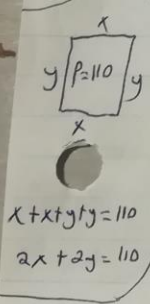
$x = 15$

$y = 2(15) + 10$
 $y = 40$



$40 \text{ m} \times 15 \text{ m} = 600 \text{ m}^2$

$\frac{50\$}{1 \text{ m}^2} = \frac{?}{600 \text{ m}^2} \rightarrow (50 \times 600) = 30,000\$$



3. $x =$ Cost of pepper basket
 $y =$ Cost of zucchini basket } Variables

Leah $\Rightarrow 5x + 4y = 35.25$
 Mario $\Rightarrow 8x + 5y = 48.75$ } Equations

Elimination \rightarrow Method

$$\begin{array}{r} 8(5x + 4y = 35.25) \\ 5(8x + 5y = 48.75) \end{array}$$

$$\begin{array}{r} 40x + 32y = 282 \\ -1(40x + 25y = 248.75) \end{array}$$

$$\begin{array}{r} 40x + 32y = 282 \\ -40x - 25y = -248.75 \\ \hline \end{array}$$

$$0x + 7y = 33.25$$

$$\frac{7y = 33.25}{7} = \frac{33.25}{7}$$

$$y = 4.75$$

$$5x + 4(4.75) = 35.25$$

$$5x + 19 = 35.25 \quad -19$$

$$5x = 16.25$$

$$x = 3.25$$

$$\text{Pascal} \Rightarrow 9x + 6y = ?$$

$$9(3.25) + 6(4.75) = ?$$

$$29.25 + 28.5 = 57.75$$

Total cost of baskets for Pascal is 57.75\$