

39. $x + y = 348$

$y = 28x$

$$x + 28x = 348$$

$$29x = 348$$

$$x = 12$$

$$y = 336$$

37.

$$x + y = 15000$$

$$0.04x + 0.05y = 690$$

$$-0.05x - 0.05y = -750$$

$$-0.01x = -60$$

$$x = 6000$$

$$y = 9000$$

3 equations & 3 unknowns
 → can't graph

Three numbers are added in pairs.
 The sum of the pairs are 11, 18, & 23.
 What are the three numbers

$$2a + 2b + 2c = 52 \quad \leftarrow$$

$$a = 11 - b$$

$$11 - b + c = 18$$

$$\underline{-b + c = 7}$$

$$a + b = 11$$

$$a + c = 18$$

$$b + c = 23$$

$$\underline{-b + c = 7}$$

$$2c = 30$$

$$c = 15$$

$$b = 0$$

$$a = 3$$

Solve

$$\textcircled{1} a + b + c = 14$$

$$\textcircled{2} a - b + c = 6$$

$$\textcircled{3} a - b - c = -10$$

$$2a = 4$$

$$a = 2$$

$$2 - b + c = 6$$

$$-b + c = 4$$

$$2 + b + c = 14$$

$$b + c = 12$$

$$-b + c = 4$$

$$2c = 16$$

$$c = 8$$

$$\textcircled{1} + \textcircled{2}$$

$$2a + 2c = 20$$

$$2a = 4$$

$$a = 2$$

$$\begin{array}{l} a + 3b + 3c = 1 \quad \textcircled{1} \\ 2a - 3b - 4c = -5 \quad \textcircled{2} \\ 3a + 6b - 2c = -2 \quad \textcircled{3} \\ \hline 4a - 6b - 8c = -10 \quad \leftarrow \times 2 \\ \hline 7a - 10c = -12 \end{array}$$

$\textcircled{1} + \textcircled{2}$
 $3a - c = -4$