

13) Sarawong and Stephanie are selling flower bulbs for a school fundraiser. Customers can buy bags of windflower bulbs and packages of corcus bulbs. Sarawong sold 5 bags of windflower bulbs and 7 packages of corcus bulbs for a total of \$81. Stephanie sold 4 bags of windflower bulbs and 14 packages of corcus bulbs for a total of \$132. What is the cost each of one bag of windflower bulbs and one package of corcus bulbs.

Windflower - x
 Corcus - y

Sarawong
 $(5x + 7y = 81) (+4)$
 Steph $\rightarrow (4x + 14y = 132) - 5$

$28x + (-70y) + 20x + 28y = 324$
 $+ -20x - 70y = -660$

$-42y = -336$
 $\frac{-42y}{-42} = \frac{-336}{-42}$
 $y = +8$

Each Corcus I paid \$8

Windflower

Each bag of Windflower = \$5

$5x + 7y = 81$
 $5x + 7(8) = 81$
 $5x + 56 = 81$
 $5x = 81 - 56$
 $\frac{5x}{5} = \frac{25}{5} \quad x = 5$

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14) Courtney invested a total of \$8100 into PJY's at 7% interest and RMU's at 4% interest. If she earned \$459 in interest, how much money did she invest in each amount?

$$X - \text{PJY} \quad (X + Y = 8100) - 0.07$$

$$Y - \text{RMU} \quad 0.07x + 0.04y = 459$$

$$\begin{array}{r} -0.07x - 0.07y = -567 \\ +0.07x + 0.04y = 459 \\ \hline -0.03y = -108 \end{array}$$

$$\begin{array}{r}
 \textcircled{P}) (-8x - 6y = 18) + 7 \\
 + (7x - 7y = -28) + 8 \\
 \hline
 -x - 42y = 126 \\
 + 56; -56y = -224 \\
 \hline
 \end{array}$$

Elimination

$$\begin{array}{r}
 + \quad -42 + (-56) \\
 - \\
 X \quad -42 - 56.
 \end{array}$$

$$\begin{array}{r}
 -98y = -98 \\
 \hline
 -98 \quad -98 \\
 \hline
 \end{array}$$

Get rid of a variable.

$$y = 1$$

$$(-3, 1)$$

$$\begin{array}{r}
 -8x - 6(1) = 18 \\
 -8x - 6 = 18 \\
 -8x = 18 + 6 \\
 -8x = 24 \\
 \hline
 -8 \quad -8 \\
 \hline
 x = -3
 \end{array}$$

$$\begin{aligned} \textcircled{1} \quad & -2x + 7y = -21 \\ & -2x + 7(-3x - 3) = -21 \\ & -2x - 21x - 21 = -21 \\ & -2x - 21x = -21 + 21 \\ & \quad \quad \quad \frac{-23x}{-23} = \frac{0}{-23} \\ & \quad \quad \quad x = 0 \end{aligned}$$

(0, 3)

$$\begin{aligned} & -2x + 7y = -21 \\ & -2(0) + 7y = -21 \\ & \quad \quad \quad \frac{7y}{7} = \frac{-21}{7} \\ & \quad \quad \quad y = -3 \end{aligned}$$

2) $7x - y = -15$

$$\begin{aligned} 2x + 14 &= -21 \\ -2(0) + 7y &= -21 \\ 7y &= -21 \\ \frac{7y}{7} &= \frac{-21}{7} \\ y &= -3 \end{aligned}$$

2) $7x - y = -15$

$$\begin{aligned} 7x - (-7x + 1) &= -15 && (-1, 8) \\ 7x + 7x - 1 &= -15 \\ 7x + 7x &= -15 + 1 \\ 14x &= \frac{-14}{14} \\ +4 & \quad 14 \\ x &= -1 \end{aligned}$$
$$\begin{aligned} 7(-1) - y &= -15 \\ -7 - y &= -15 \\ -y &= -15 + 7 \\ -y &= \frac{-8}{-1} \\ y &= 8 \end{aligned}$$

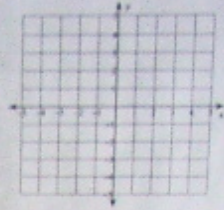
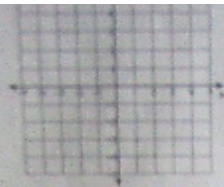
$$\begin{array}{l} 3) \quad x + 6y = -11 \\ \quad x + 6(-2x) = -11 \\ \quad x - 12x = -11 \\ \quad -11x = -11 \\ \quad \frac{-11x}{-11} = \frac{-11}{-11} \\ \quad x = 1 \end{array}$$
$$\begin{array}{l} -2x - 3y = 0 \\ \frac{-6x}{3} = \frac{+3y}{3} \\ y = -2x \end{array}$$
$$(1, -2)$$
$$\begin{array}{l} 1 + 6y = -11 \\ 6y = -11 - 1 \\ \frac{6y}{6} = \frac{-12}{6} \\ y = -2 \end{array}$$

$$\begin{aligned} 6y &= -11 - 1 \\ \frac{6y}{6} &= \frac{-12}{6} \\ y &= -2 \end{aligned}$$

4) $-5x = y$ or $y = -5x$

$$\begin{aligned} -6x + y &= -11 && |, -5) \\ -6x + (-5x) &= -11 \\ -6x - 5x &= -11 \\ -11x &= -11 \\ \frac{-11x}{-11} &= \frac{-11}{-11} \\ x &= 1 \end{aligned}$$
$$\begin{aligned} -6(1) + y &= -11 \\ y &= -11 + 6 \\ y &= -5 \end{aligned}$$

Complete Questions 7-12



Solve each system by substitution.

2) $-5x + 3y = -6$
 $y = -3x - 3$

4) $-x - y = 2$
 $y = -7x + 4$

5) $y = 2$
 $4x - 4y = -20$

6) $-2x + 2y = -10$
 $y = 3x - 1$

Solve each system by elimination.

7) $-7x - 3y = -20$
 $7x + 3y = 17$

8) $x + 10y = -27$
 $x + 6y = -15$

9) $-9x - 6y = -9$
 $-4x - 3y = -3$

10) $-5x + 8y = 25$
 $6x - 16y = -30$

11) $-8x - 6y = 18$
 $7x - 7y = -28$

12) $-8x - 9y = 26$
 $7x + 4y = -15$

13) Samwong and Stephanie are selling flower bulbs for a school fundraiser. Customers can buy bags of windflower bulbs and packages of crocus bulbs. Samwong sold 5 bags of windflower bulbs and 7 packages of crocus bulbs for a total of \$81. Stephanie sold 4 bags of windflower bulbs and 14 packages of crocus bulbs for a total of \$132. What is the cost each of one bag of windflower bulbs and one package of crocus bulbs?

14) Courtney invested a total of \$8100 into PFV's at 7% interest and RMU's at 4% interest. If she earned \$459 in interest, how much money did she invest in each account?

Answers to Assignment (ID: 1)

1) $(-2, -2)$

2) $(3, 1)$

3) $(0, -3)$

4) $(1, -5)$

5) $(-3, 2)$

6) $(-2, -7)$

7) No solution

8) $(3, -1)$

9) $(3, -3)$

10) $(-5, 0)$

11) $(-3, 1)$

12) $(-1, -2)$

13) bag of windflower bulbs: \$5, package of crocus bulbs: \$8

14) \$4500 at 7% and \$3600 at 4%