

HW 3 - 2: Answers

- $x = 6, y = 1$
- $x = -2, y = -3, z = 2$
- $x = 2, y = 5, z = -1$

Do the entire first page
of today's notes with
your partner

Change on tonight's
HW. Replace #2 with
3-5 #1

- There will be **16 roses, 6 lilies, and 2 tulips** in her basket.
- He would spend **\$11** on the requested order.

Aug 13-9:18 AM

$$\begin{array}{l}
 x - y = 1 \\
 2y + z = -4 \\
 x - 2z = -6
 \end{array}
 \quad
 \begin{array}{l}
 \textcircled{1} 2(x - y + 0z = 1) \\
 \textcircled{2} 0x + 2y + z = -4 \\
 \hline
 2x - 2y + 0z = 2 \\
 0x + 2y + z = -4 \\
 \hline
 \textcircled{4} 2x + z = -2 \\
 \quad x - 2z = -6
 \end{array}$$

Oct 16-12:58 PM

$$\begin{array}{l}
 x + y + z = 24 \\
 3x + 2y + z = 58 \\
 x = 2(y + z)
 \end{array}$$

Oct 16-1:01 PM

$$\begin{array}{l}
 \textcircled{1} x + 4y + 3z = 4 \\
 \textcircled{2} x - y - z = -2 \\
 \hline
 2x + 7z = 2
 \end{array}
 \quad
 \begin{array}{l}
 -2x - 2y - 6z = -8 \\
 \textcircled{1} 2(x + y + 3z = 4) \\
 \textcircled{2} 0x + 2y + 3z = 7 \\
 \hline
 -2x - 3z = -1 \\
 2x + 2z = 2 \\
 \hline
 -z = +1 \\
 z = -1
 \end{array}$$

Oct 16-1:03 PM

Solve the following systems.

$$\begin{array}{l}
 1. \quad \begin{array}{l} 5x + 2y = 32 \\ 6x + 6y = 42 \end{array} \quad (-3) \\
 \hline
 -15x - 10y = -96 \\
 10x + 10y = 42 \\
 \hline
 -4x = -54 \\
 x = 10
 \end{array}$$

$$\begin{array}{l}
 5(10) + 2y = 32 \\
 2y = 2 \\
 y = 1
 \end{array}$$

$$\begin{array}{l}
 x = 10 \\
 y = 1
 \end{array}$$

Aug 13-12:01 PM

$$\begin{array}{l}
 2. \quad \begin{array}{l} x - y = 1 \rightarrow x = y + 1 \\ 2y + z = -4 \\ x - 2z = -6 \end{array} \quad x = 2z - 6 \\
 \begin{array}{l} y + 1 = 2z - 6 \\ y - 2z = -7 \\ 4y + 2z = -8 \\ \hline 5y = -15 \\ y = -3 \end{array}
 \end{array}
 \quad
 \begin{array}{l}
 -3 - 2z = -7 \\
 -2z = -4 \\
 z = 2
 \end{array}
 \quad
 \begin{array}{l}
 x + 3 = 1 \\
 x = -2
 \end{array}
 \quad
 \begin{array}{l}
 x = -2 \\
 y = -3 \\
 z = 2
 \end{array}$$

Aug 13-12:01 PM

3. $7x + y + 3z = 4$
 $2y + 3z = 7$
 $x - y - z = -2$

$x + y + 3z = 4$
 $x - y - z = -2$
 $2x + 2z = 2$

$2x - 2y - 2z = -4$
 $2y + 3z = 7$
 $2x + z = 3$
 $-2x - 2z = -2$
 $-z = 1$
 $z = -1$

$2y + 3(-1) = 7$
 $2y = 10$
 $y = 5$

$x - 5 + 1 = -2$
 $x = 2$
 $y = 5$
 $z = -1$

Aug 13-12:01 PM

4. A florist is making a bouquet of flowers. She has \$58 to spend (including tax) and wants 24 flowers in the bouquet. Roses are \$3 each, tulips cost \$2 each, and lilies cost \$1 each. She wants to have twice as many roses as the other two flowers combined in the bouquet. How many of each flower type will be in her bouquet?

Let $x = \# \text{ roses}$
 $y = \# \text{ tulips}$
 $z = \# \text{ lilies}$

$x + y + z = 24$
 $3x + 2y + z = 58$
 $x = 2(y + z) \rightarrow x - 2y - 2z = 0$

There will be 10 roses, 2 tulips & 6 lilies in her basket

$3x + 2y + z = 58$
 $x - 2y - 2z = 0$
 $4x - z = 58$

$-2x - 2y - 2z = -48$
 $3x + 2y + z = 58$
 $x - z = 10$

$4x - z = 58$
 $-x + z = -10$
 $3x = 48$
 $x = 16$
 $z = 0$
 $y = 2$

Aug 13-12:01 PM

5. Gramps loves his sweets! He has been to the candy shop 3 times this month! On his first visit he bought 1 pound of jelly beans and 2 pounds of chocolates for \$7. On his second visit they were out of chocolates so he bought 1 pound of jelly beans and 2 pounds of caramels for \$5. On his third visit, they had replenished the chocolates so he went all out and bought 1 pound of jelly beans, 3 pounds of chocolates and 2 pounds of caramels all for \$14. How much would he spend on two pounds of jelly beans, 1 pound of chocolates and 3 pounds of caramels?

Let $x = \text{cost jelly beans}$
 $y = \text{cost chocolates}$
 $z = \text{cost caramels}$

$x + 2y = 7$
 $x + 2z = 5$
 $x + 3y + 2z = 14$

$x + 2(3) = 7$
 $x = 1$
 $1 + 2z = 5$
 $2z = 4$
 $z = 2$

$2(1) + 3 + 3(2) = 11$
He would spend \$11 on the requested order

Aug 13-12:02 PM

Solving Systems Graphically

U3D3

Aug 13-9:09 AM

Warm-Up: $y = mx + b$

Graph: $x + y = 6 \rightarrow y = -x + 6$
 $-3x + y = 2$
 $y = 3x + 2$
 $m = 3$
 $b = 2$
 $(0, 2)$

$m = -1$
 $b = 6$
 $(0, 6)$

Solve the above system algebraically.

Do the entire first page of today's notes with your partner

$x + y = 6$
 $-3x + y = 2$
 $-4x = -4$
 $x = 1$
 $y = 5$

Aug 13-10:42 AM

Warm-Up: Graph: $x + y = 6$
 $-3x + y = 2$
 $y = -x + 6$
 $y = 3x + 2$
 $m = -1$
 $m = 3$
 $b = 6$
 $b = 2$
 $(1, 5)$

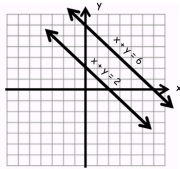
Solve the above system algebraically.

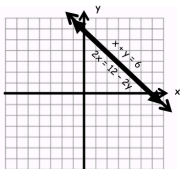
$3x + 3y = 18$
 $-3x + y = 2$
 $4y = 20$
 $y = 5$

$x + 5 = 6$
 $x = 1$

Aug 13-10:47 AM

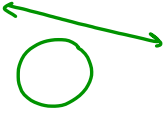

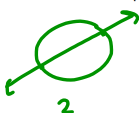
For the next two examples, $x + y = 6$ and a second equation have been graphed for you. Determine the solution for each system.

a.

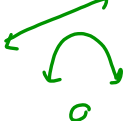


b.

Sep 6-8:48 PM

If you were to graph a circle and a line on the same set of axes, how many solutions are possible? Sketch each possibility.



How about a parabola and a line? Again, sketch each possibility.



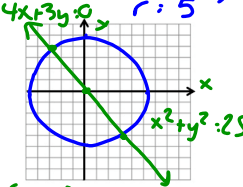
Aug 13-10:57 AM

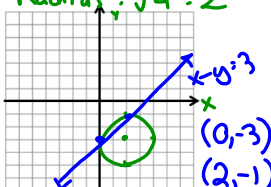
The standard form of an equation for a circle is: $(x - h)^2 + (y - k)^2 = r^2$

Where the center is: (h, k) And the radius is: $\sqrt{r^2} = r$

opposite

Aug 13-10:58 AM

1. $x^2 + y^2 = 25$
Do question 1 from Day 5
 $y = -2x + 3$
 $y = x^2 - 6x + 3$
 $C(0,0)$
 $r = 5$

 $x^2 + y^2 = 25$
 $(3, -4), (-3, 4)$

2. $(x - 2)^2 + (y + 3)^2 = 4$
 $Center: (2, -3)$
 $Radius: \sqrt{4} = 2$

 $k - b = 3$
 $(0, -3)$
 $(2, -1)$

On the same set of axis (above) graph:

1. $4x + 3y = 0$
 $-4x -4x$
 $3y = -4x$
 $y = -4/3x$
 $m = -4/3$
 $b = 0$

2. $x - y = 3$
 $-x -x$
 $-y = -x + 3$
 $y = x - 3$
 $m = 1$
 $b = -3$
 $(0, -3)$

Oct 5-9:41 AM

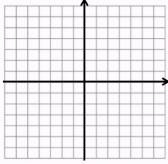
Review Completing the Square. Set up. Do not solve.

$x^2 + 4x = 6$

Sep 6-8:51 PM

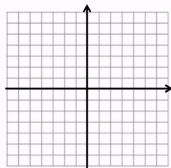
Rewrite the equation of the circle by completing the square in both x and y. Describe and graph the circle represented by the equation.

3. $x^2 + y^2 - 4x + 2y + 1 = 0$



Sep 6-8:51 PM

4. $x^2 + y^2 - 6x + 4y - 3 = 0$



Sep 6-8:52 PM

Homework Change:

Replace question#2 with Hwk 3-5 #1

Oct 11-9:38 AM