

Test Review Activity KEY

Oct 20-4:29 PM

1. Solve: (Check using MATRIX on your calculator)

$$\begin{array}{l} \textcircled{1} 2x + y + 2z = 6 \\ \textcircled{2} -2x + 2y - z = 3 \\ \textcircled{3} x + 3y - 2z = -1 \end{array} \left. \begin{array}{l} \\ \\ \end{array} \right\} \begin{array}{l} \text{Elim} \\ \text{X's} \end{array}$$

Answer: $x = -1, y = 2, z = 3$

$$\begin{array}{l} \textcircled{1} 2x + y + 2z = 6 \\ \textcircled{2} -2x + 2y - z = 3 \\ \hline \textcircled{4} 3y + z = 9 \end{array}$$

$$\begin{array}{l} \textcircled{2} -2x + 2y - z = 3 \\ 2\textcircled{3} 2x + 6y - 4z = -2 \\ \hline \textcircled{5} 8y - 5z = 1 \end{array}$$

$$\begin{array}{l} 5\textcircled{4} 15y + 5z = 45 \\ \textcircled{5} 8y - 5z = 1 \\ \hline 23y = 46 \\ y = 2 \end{array}$$

$$\begin{array}{l} \textcircled{5} 8(2) - 5z = 1 \\ 16 - 5z = 1 \\ -5z = -15 \\ z = 3 \end{array}$$

$$\begin{array}{l} \textcircled{3} x + 3(2) - 2(3) = -1 \\ x + 6 - 6 = -1 \\ x = -1 \end{array}$$

Oct 20-5:38 PM

2. Solve each of the following using your graphing calculator. Round your answers to the nearest tenth.

a. Given: $g(x) = 2x^2 + 3x + 10$
 $f(x) = 4x + 32$

Solve $g(x) = f(x)$ — Solve for only x 's

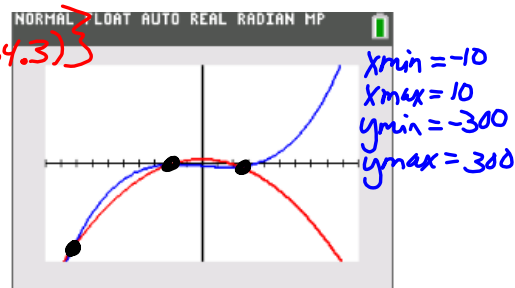
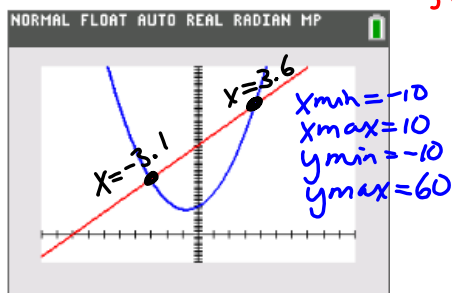
Answer: a. $\{-3.1, 3.6\}$

b. $\{(-2.1, -2.2), (2.4, -8.6)\}$

b. Given: $y = \frac{1}{2}x^3 - 4x - 6$
 $y = -4x^2 + 15$

Solve. — the whole system. x & y values

①



3. Solve Algebraically:

$$y = x^2 + 3x - 5$$

$$y = 2x + 1$$

Answer: $\{(2, 5), (-3, -5)\}$

$$\begin{array}{r|l} 2x+1 = x^2+3x-5 & y=2(-3)+1 \\ -2x-1 & y=-5 \\ \hline x^2+x-6=0 & \\ (x+3)(x-2)=0 & \\ \hline x=-3 & x=2 \\ & y=5 \end{array}$$

4. Solve Graphically:

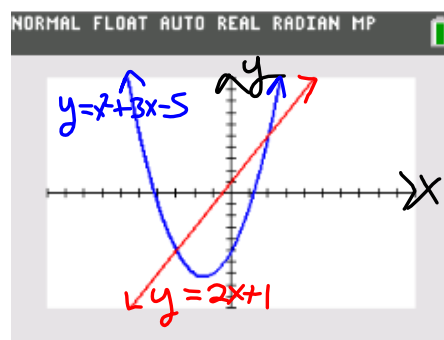
$$y = x^2 + 3x - 5$$

$$y = 2x + 1 \rightarrow m=2, b=1$$

or a table for line
(min 3 points)

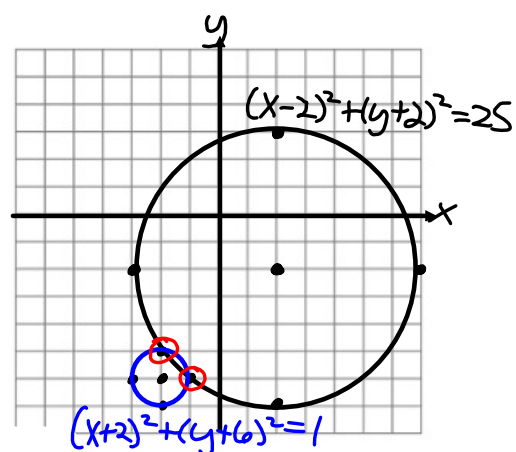
Answer: $\{(2, 5), (-3, -5)\}$

X	Y
-5	5
-4	-1
-3	-5
-2	-7
-1.5	-7.25
-1	-7
0	-5
1	-1
2	5



5. Solve Graphically:

	Center	radius
$(x - 2)^2 + (y + 2)^2 = 25$	$(2, -2)$	5
$(x + 2)^2 + (y + 6)^2 = 1$	$(-2, -6)$	1

Answer: $\{(-2, -5), (-1, -6)\}$ 

6. a. Write in standard form:

$$x^2 + y^2 - 8x + 16y + 44 = 0$$

Answer: a. $(x - 4)^2 + (y + 8)^2 = 36$

$$\underbrace{x^2 - 8x + 16}_{(x-4)^2} + \underbrace{y^2 + 16y + 64}_{(y+8)^2} = -44 + 16 + 64$$

$$(x-4)^2 + (y+8)^2 = 36$$

- b. Write in vertex form:

$$x^2 - 6x + 8y + 1 = 0$$

Answer: $(x - 3)^2 = -8(y - 1)$

$$x^2 - 6x + 9 = -8y - 1 + 9$$

$$(x-3)^2 = -8y + 8$$

$$(x-3)^2 = -8(y-1)$$

7. Given:
- $(x + 2)^2 = -4(y - 3)$

$$x^2 = -4p$$

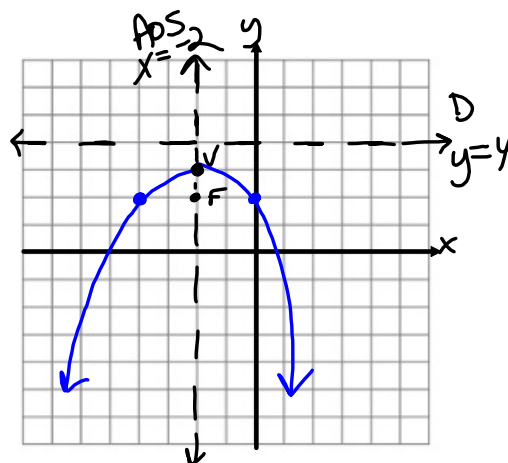
Graph and find each of the following:

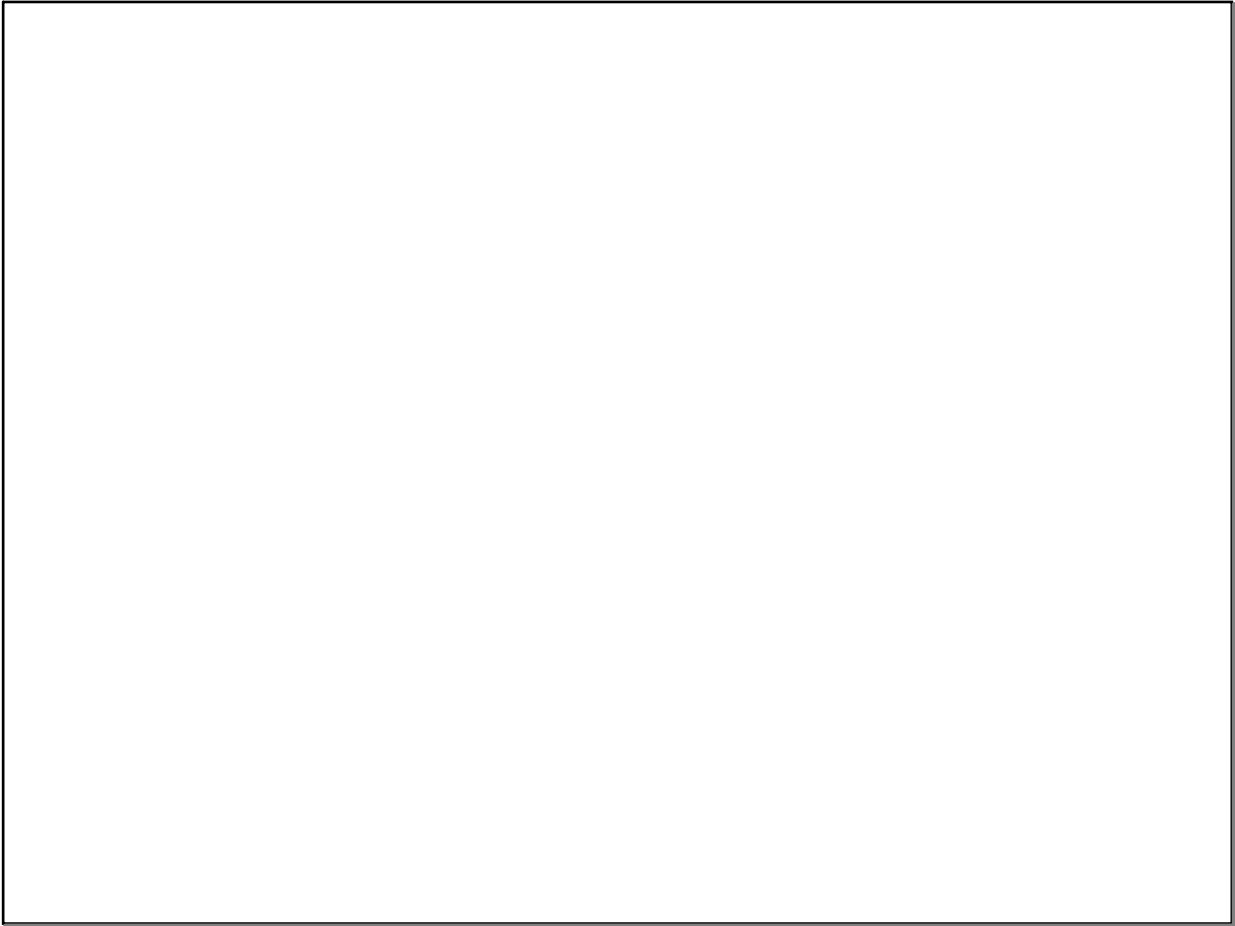
- Vertex
- Focus
- Directrix
- Axis of Symmetry

$|4p| = 4$ width 2+2
 $p = 1$ V-F, V-D
 vertex $(-2, 3)$

Answer:

- $(-2, 3)$ V
- $(-2, 2)$ F
- $y = 4$ D
- $x = -2$ AOS





Oct 23-3:22 PM