

**Learning Target:** I can use a graphing calculator to help solve problems.

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**Bell Work:**

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$$h(x) = \frac{1}{(x-5)^2 + 4(x-5) + 4}$$

For what value of  $x$  is the function  $h$  above undefined?

*Graph on Calc.*

*$x = -3$*

In the  $xy$ -plane, the point  $(3, 6)$  lies on the graph of the function  $f(x) = 3x^2 - bx + 12$ .

What is the value of  $b$ ?

*$b = 3(3)^2 - b(3) + 12$*

*$b = 27 - 3b + 12$*

*$b = 39 - 3b$*

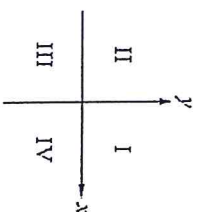
*$-33 = -3b$*

*$b = 11$*

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

The equation above represents a parabola in the  $xy$ -plane. Which of the following equivalent forms of the equation displays the  $x$ -intercepts of the parabola as constants or coefficients?

- A.)  $y - 8 = x^2 - 6x$
- B.)  $y + 1 = (x - 3)^2$
- C.)  $y = x(x - 6) + 8$
- D.)  $y = (x - 2)(x - 4)$



If the system of inequalities  $y \geq 2x + 1$  and  $y > \frac{1}{2}x - 1$  is graphed in the  $xy$ -plane above, which quadrant contains no solutions to the system?

- A.) Quadrant II
- B.) Quadrant III
- C.) Quadrant IV
- D.) There are solutions in all four quadrants.

A sociologist chose 300 students at random from each of two schools and asked each student how many siblings he or she has. The results are shown in the table below.

**Students' Sibling Survey**

Number of Siblings	Lincoln School	Washington School
0	120	140
1	80	110
2	60	30
3	30	10
4	10	10

There are a total of 2,400 students at Lincoln School and 3,300 students at Washington School.

What is the median number of siblings for all the students surveyed?

- A.) 0
- B.) 1
- C.) 2
- D.) 3