

GRAPH THE KEY FEATURES OF A QUADRATIC

PROBLEM 1:

Given the quadratic in factored form and the graph. Find the key features (using algebra).

$$y = (x - 2)(x - 4)$$

x-ints $(2, 0)$ $(4, 0)$

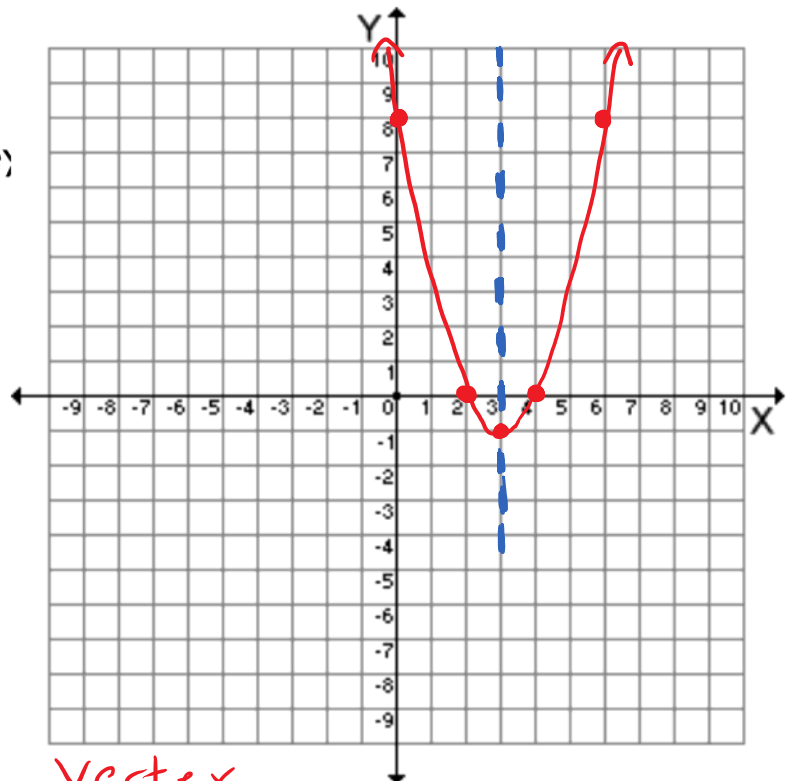
y-int $(0, 8)$

Vertex $(3, -1)$

Axis of Symmetry: $x = 3$

Max or Min: -1

$$y = (0 - 2)(0 - 4) \\ (-2)(-4) \\ 8$$



Vertex
 $2 + 4 = \frac{6}{2} = 3$

$$y = (3 - 2)(3 - 4) \\ (1)(-1) \\ -1$$

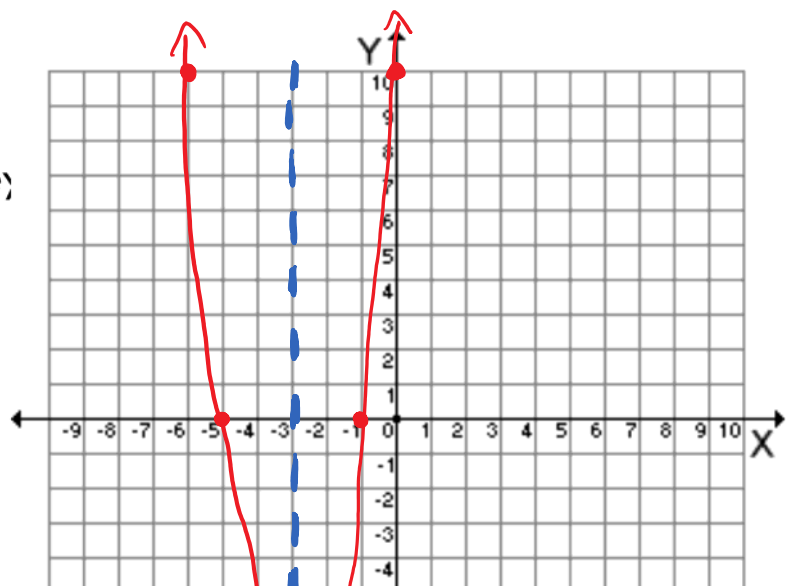
PROBLEM 1A:

Given the quadratic in factored form and the graph. Find the key features (using algebra).

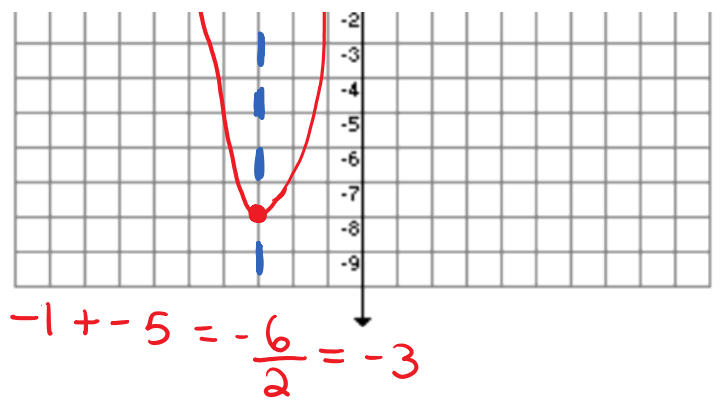
$$y = 2(x + 1)(x + 5)$$

x-ints $(-1, 0)$ $(-5, 0)$

y-int $(0, 10)$



y -int($0, 10$)
 Vertex($-3, -8$)
 Axis of Symmetry: $x = -3$
 Max or Min: -8
 $y = 2(0+1)(0+5)$
 $\quad\quad\quad 2(1)(5)$
 $\quad\quad\quad 10$



$$-1 + -5 = -\frac{6}{2} = -3$$

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

$$2(-2)(2)$$

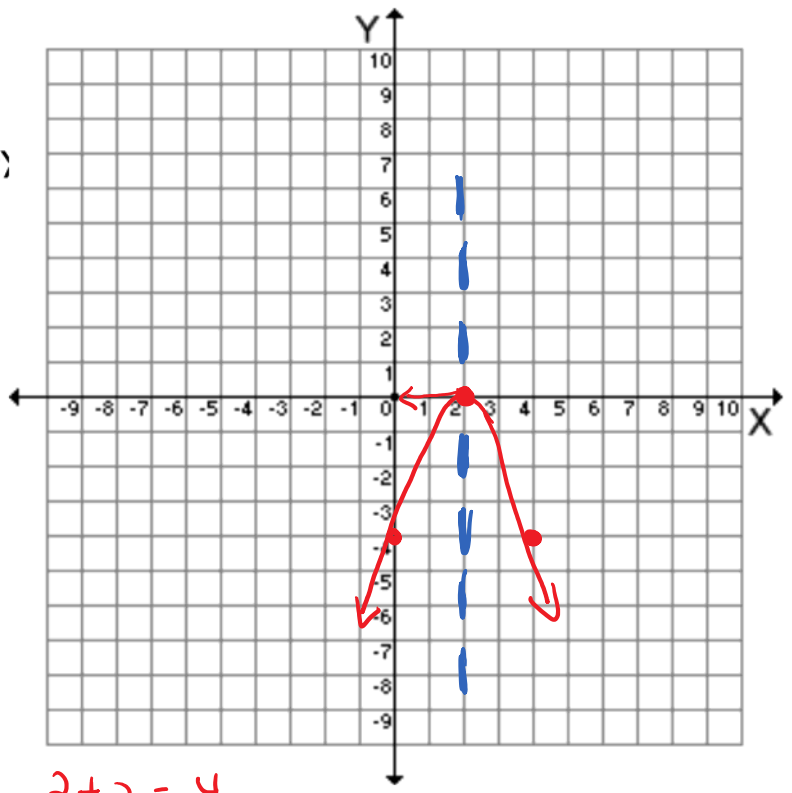
$$-8$$

PROBLEM 1B:

Given the quadratic in factored form and the graph. Find the key features (using algebra).

$$y = -1(x - 2)(x - 2)$$

x -ints($2, 0$) ($2, 0$)
 y -int($0, -4$)
 Vertex($2, 0$)
 Axis of Symmetry: $x = 2$
Max or Min: 0



$$2 + 2 = \frac{4}{2} = 2$$

$$y = -1(2-2)(2-2)$$

$$-1(0)(0)$$

$$0$$

PROBLEM 1C:

Given the quadratic in factored form and the graph. Find the key features (using algebra).

$$y = (x - 1)(x + 3)$$

$$\text{x-ints } (1, 0) \quad (-3, 0)$$

$$\text{y-int } (0, -3)$$

$$\text{Vertex } (-1, -4)$$

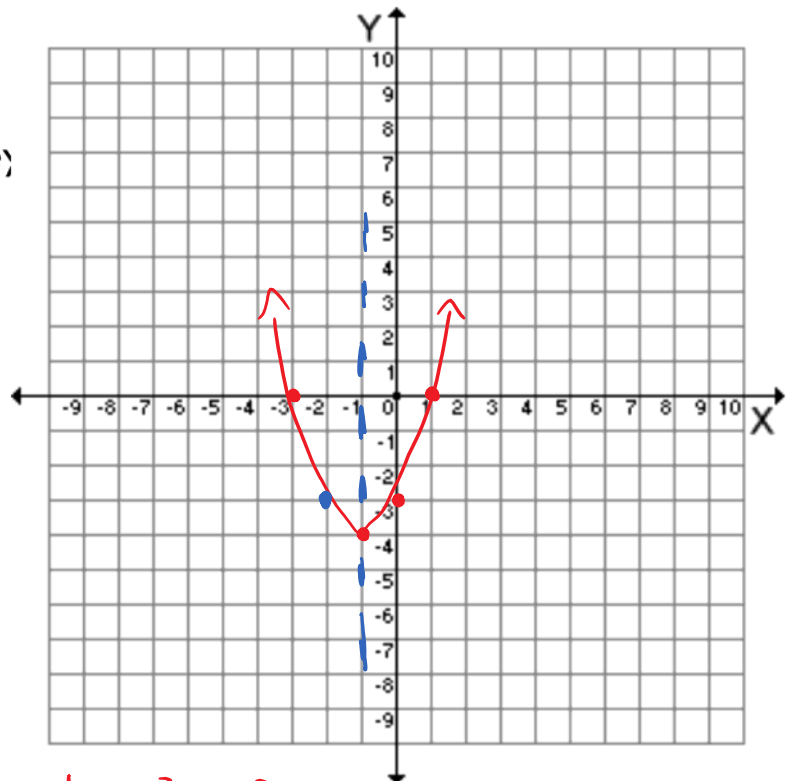
$$\text{Axis of Symmetry: } \underline{x = -1}$$

$$\text{Max or } \textcircled{\text{Min}}: \underline{-4}$$

$$y = (0-1)(0+3) \\ (-1)(3) \\ -3$$

$$1 + -3 = -2 \\ \frac{-2}{2} = -1$$

$$y = (-1-1)(-1+3) \\ (-2)(2) \\ -4$$



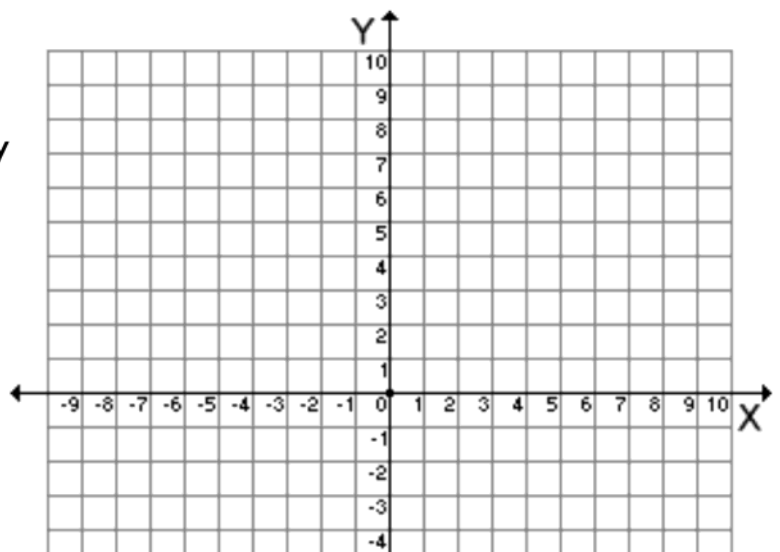
PROBLEM 2:

Given the quadratic in factored form and the graph. Find the key features.

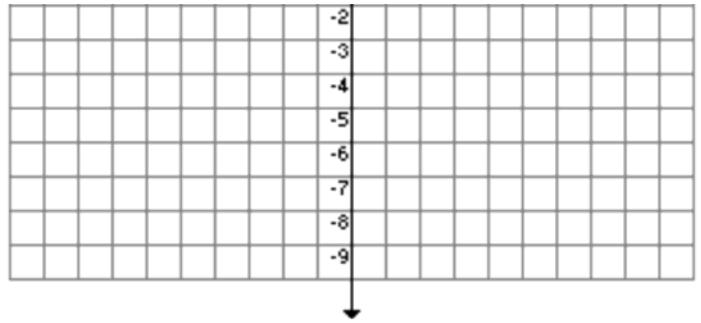
$$y = (2x - 1)(x + 3)$$

$$\text{x-ints } (\quad) (\quad)$$

$$\text{y-int } (\quad)$$



y-int()
 Vertex()
 Axis of Symmetry: _____
 Max or Min: _____

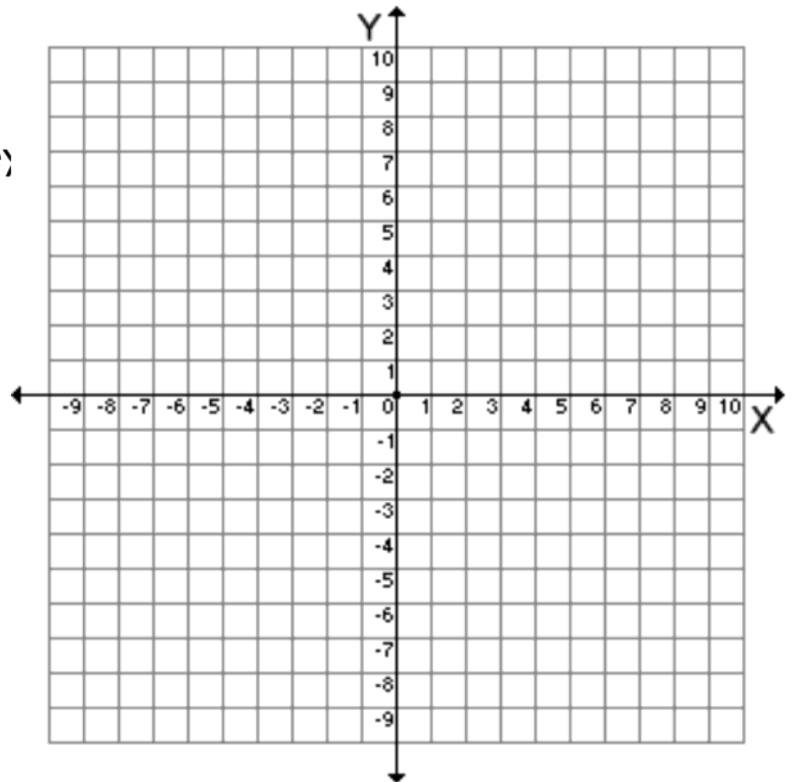


PROBLEM 2A:

Given the quadratic in factored form and the graph. Find the key features.

$$y = (2x + 5)(x - 4)$$

x-ints() ()
 y-int()
 Vertex()
 Axis of Symmetry: _____
 Max or Min: _____



PROBLEM 2B:

Given the quadratic in factored form and the graph. Find the key features.

$$y = (3x - 1)(x + 2)$$

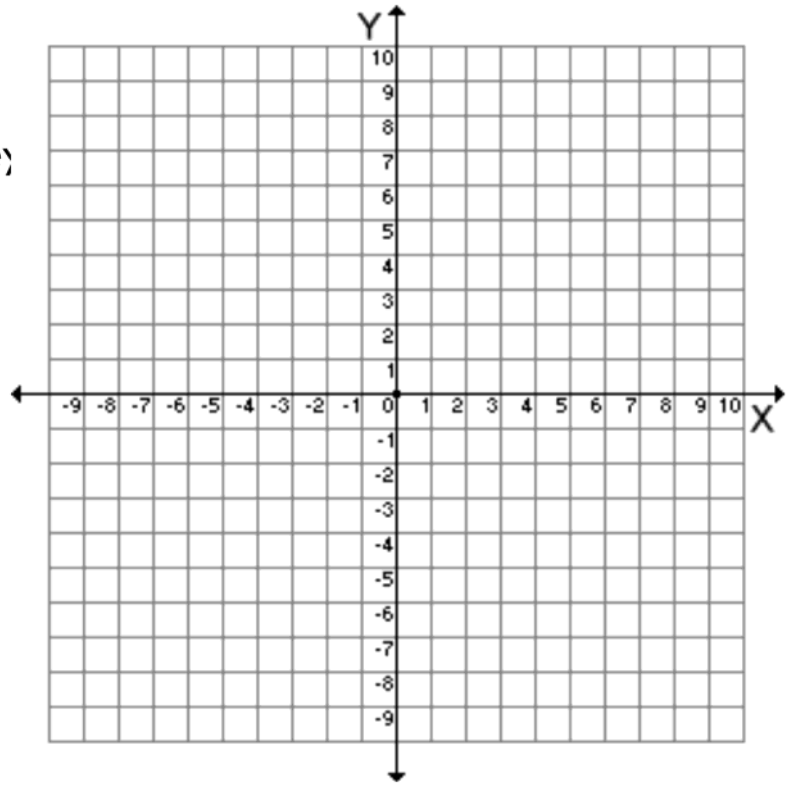
x-ints() ()

y-int()

Vertex()

Axis of Symmetry: _____

Max or Min: _____



PROBLEM 2C:

Given the quadratic in factored form and the graph. Find the key features.

$$y = (2x - 1)(x + 2)$$

x-ints() ()

y-int()

Vertex()

Axis of Symmetry: _____

Max or Min: _____

