

Chapter 9 Review

Solve the equation.

1) $16y^2 - 80 = 0$

1a) $\frac{1}{3}x^2 - 7 = -4$

2) Simplify

$$\sqrt{\frac{99}{25}}$$

3) Sketch a graph of quadratic without using the quadratic formula. $y = x^2 - 2x - 5$

4) Use the quadratic formula to solve the equation.

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

5) Graph the quadratic function using the quadratic formula to find the x-intercepts. $y = x^2 + 4x - 1$

6) Sketch the graph of $y \geq -x^2 - 2x + 3$

Chapter 9 Review

Solve the equation.

1) $16y^2 - 80 = 0$

$$16y^2 = 80$$

$$y^2 = 5$$

$$y = \pm\sqrt{5}$$

1a) $\frac{1}{3}x^2 - 7 = -4$

$$\frac{1}{3}x^2 = 3$$

$$x^2 = 9$$

$$x = \pm 3$$

2) Simplify $\sqrt{\frac{99}{25}}$

$$\frac{\sqrt{99}}{\sqrt{25}} = \frac{\sqrt{9} \cdot \sqrt{11}}{5} = \frac{3\sqrt{11}}{5}$$

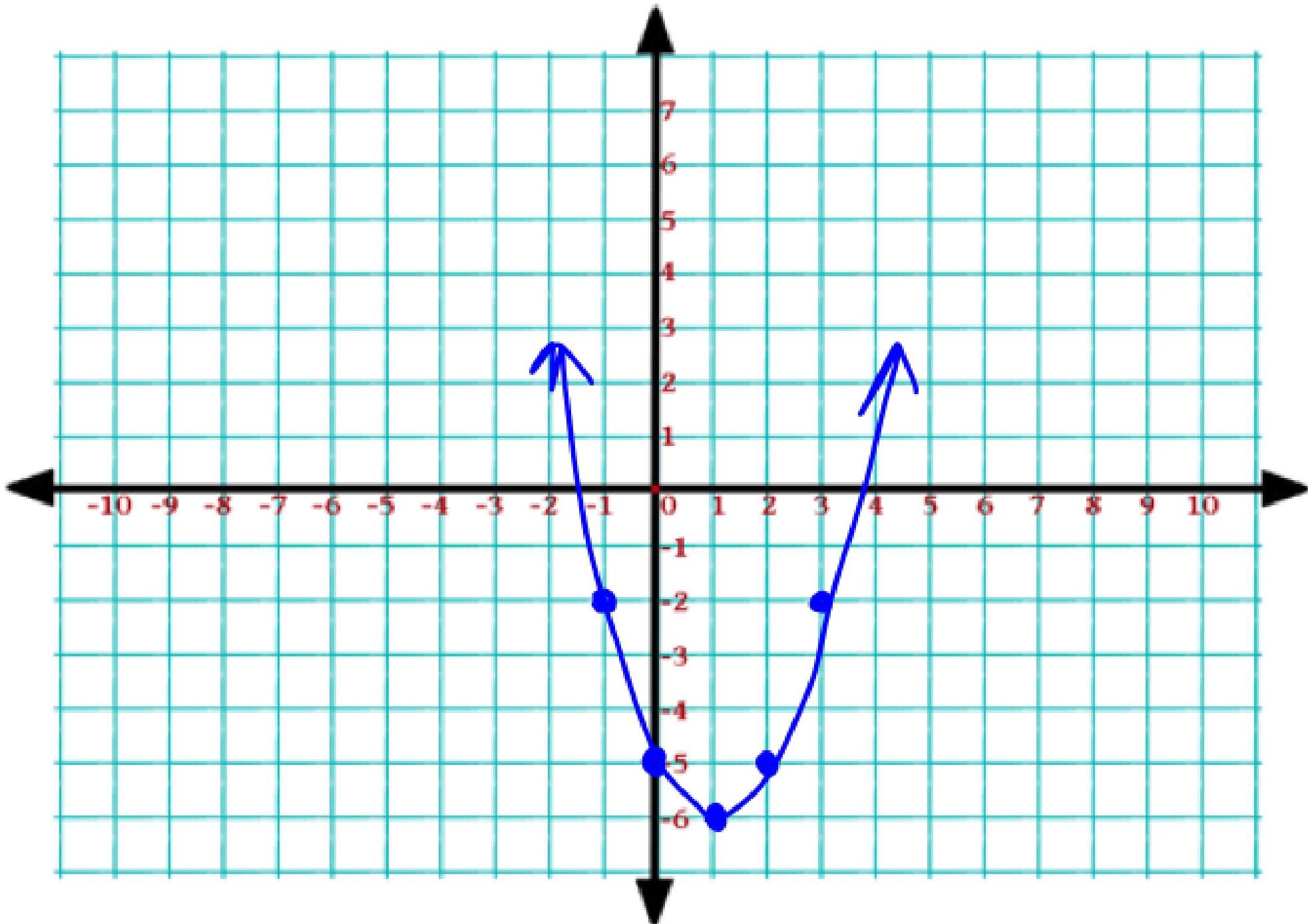
3) Sketch a graph of quadratic without using the quadratic formula. $y = x^2 - 2x - 5$

vertex $-\frac{b}{2a} = \frac{2}{2} = 1$

$$y = (1)^2 - 2(1) - 5$$
$$= -6$$

$$(1, -6)$$

x	y
0	-5
3	-2



4) Use the quadratic formula to solve the equation.

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

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-1 \pm \sqrt{(1)^2 - 4(-2)(6)}}{2(-2)}$$

$$\frac{-1 \pm \sqrt{1 + 48}}{-4}$$

$$\frac{-1 \pm \sqrt{49}}{-4}$$

$$\frac{-1 + 7}{-4}$$

$$\frac{-1 - 7}{-4}$$

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

5) Graph the quadratic function using the quadratic formula to find the x-intercepts. $y = x^2 + 4x - 1$

$$\text{vertex } x = \frac{-b}{2a} = \frac{-4}{2} = -2$$

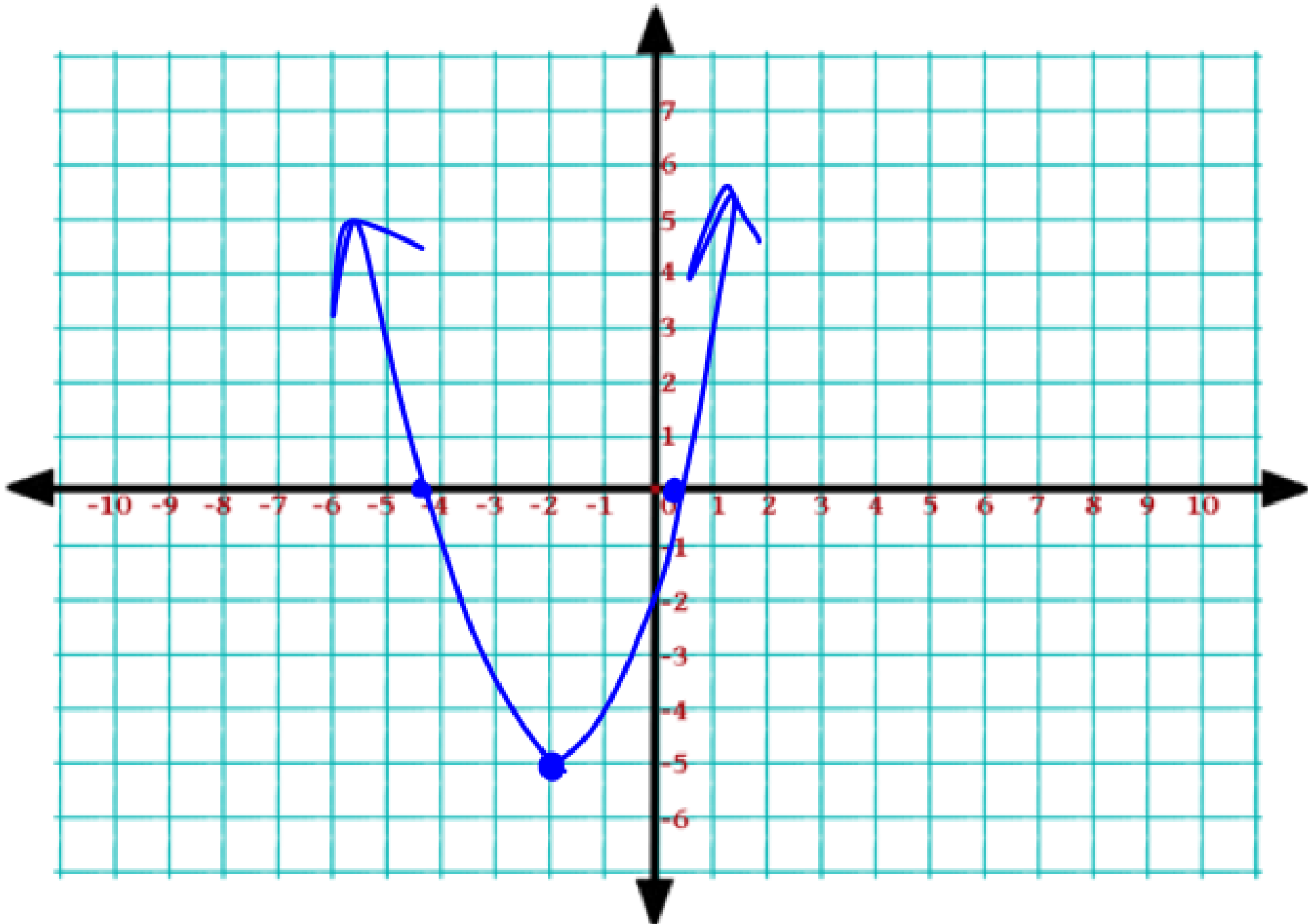
$$y = -2^2 + 4(-2) - 1 \\ = -5$$

$$\text{x-int } \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \\ \frac{-4 \pm \sqrt{4^2 - 4(1)(-1)}}{2(1)}$$

$$\frac{-4 \pm \sqrt{20}}{2}$$

$$\frac{-4 + \sqrt{20}}{2} + \frac{-4 - \sqrt{20}}{2}$$

$$-2 + \sqrt{5} + -2 - \sqrt{5}$$



6) Sketch the graph of $y \geq -x^2 - 2x + 3$

vertex $x = \frac{-b}{2a} = \frac{2}{-2} = -1$

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

x-int $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$$\frac{2 \pm \sqrt{2^2 - 4(-1)(3)}}{2(-1)}$$

$$\frac{2 \pm \sqrt{16}}{-2}$$

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

$$-3 + 1$$

6) Sketch the graph of $y \geq -x^2 - 2x + 3$

Test Point $(0, 0)$

$$0 \geq 0 - 0 + 3$$

$$0 \geq 3$$

not true, shade outside of
the parabola

