

# CHAPTER 9: QUADRATIC EQUATIONS

Function: x, y  $y = x^2 - 7x + 10$

$y = 2x - 1$   $(x, y)$   
 $(0, -1)$   
 $(1, 1)$

Equation:  $x : \frac{2x - 1 = 3}{+1 \quad +1}$  1 answer  
 $\frac{2x = 4}{x = 2}$   $x = 2$

$$x^2 - 7x + 10 = 0$$

$$\cancel{x} \cdot \cancel{x} = 0$$

$$\cancel{x} \cdot y = 0$$

$$x \cdot y = 0$$

$$\underline{x = 0} \quad \text{or} \quad y = 0$$

$$\sqrt{x^2} = \sqrt{9}$$

$$x = \pm 3$$

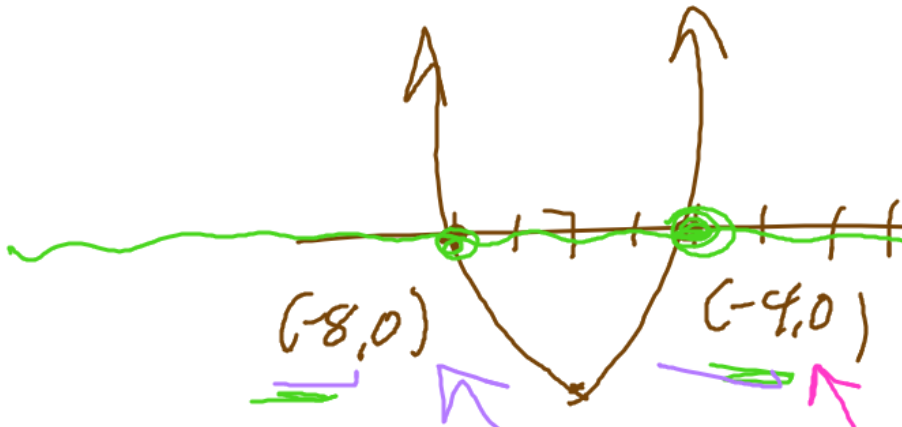
$$\Rightarrow (+3, -3)$$

$$y = x^2 + 12x + 32$$



$$x^2 + 12x + 32 = 0$$

$$(x + 8)(x + 4) = 0$$



$$\begin{array}{r} x + 8 = 0 \\ -8 \quad -8 \\ \hline \end{array}$$

$$x = -8$$

$$\begin{array}{r} x + 4 = 0 \\ -4 \quad -4 \\ \hline \end{array}$$

$$x = -4$$

A "ZERO" :- a value of  $x$  that makes  $y=0$

- X-intercept of a graph

$$y = 1x^2 - 7x + 10$$

$$= (x-5)(x-2) = 0$$

$$x = 5$$

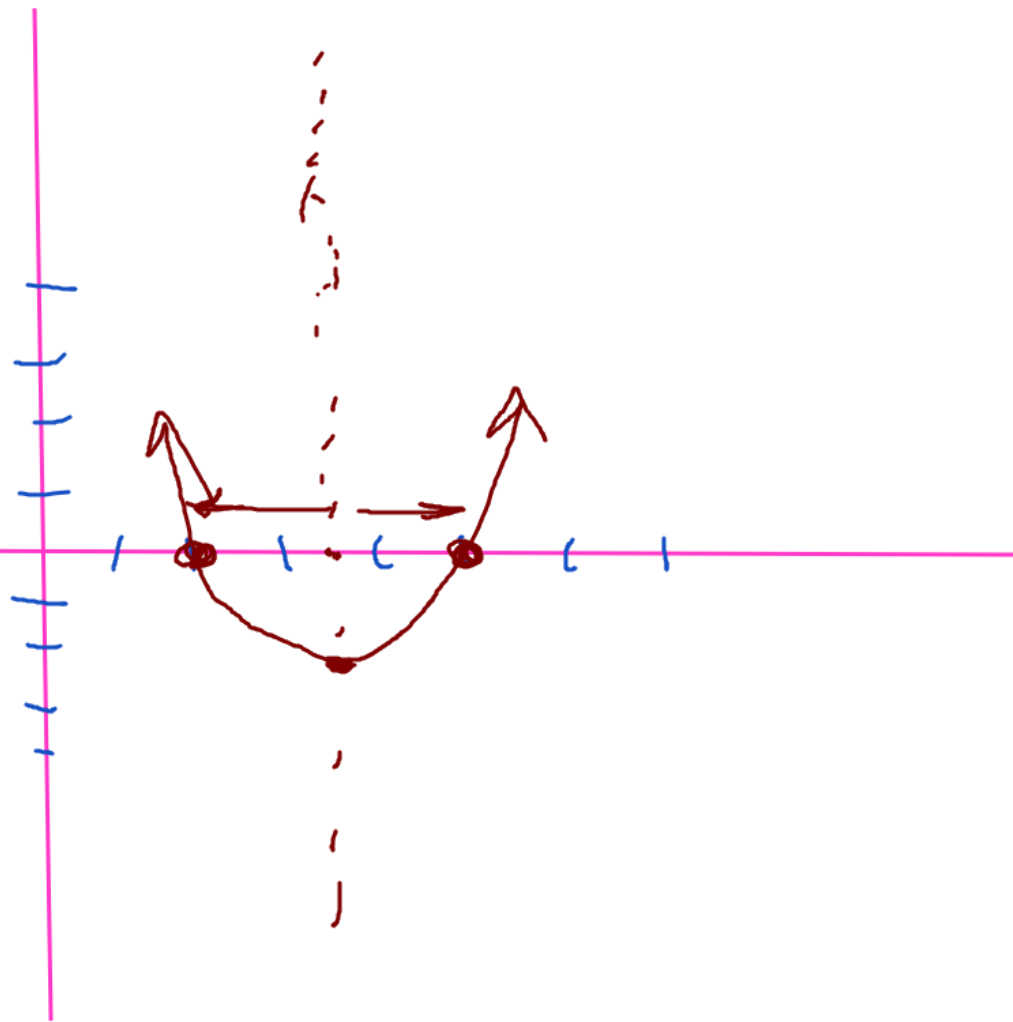
$$x = 2$$

3.5

$$y = 3.5^2 - 7(3.5) + 10$$

$$\underline{12.25} - 24.5 + \underline{10}$$

$$12.25 - 24.5 = -12.25$$



$$y = x^2 - 2x - 8 \quad x = -\frac{b}{2a}$$

$$(x-4)(x+2) = 0$$

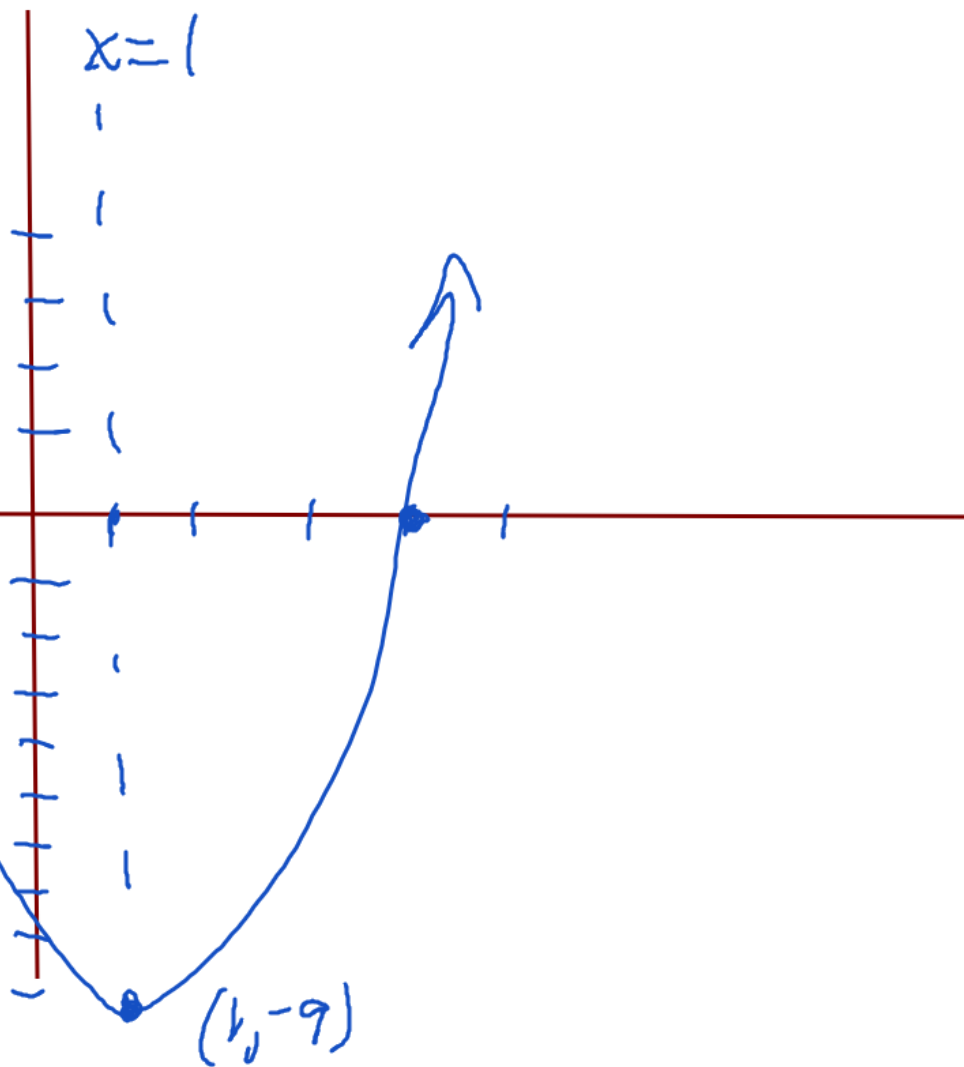
$$x = 4 \quad x = -2$$

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

$$\underline{1 - 2 - 8}$$

$$1 - 10$$

$$-9$$

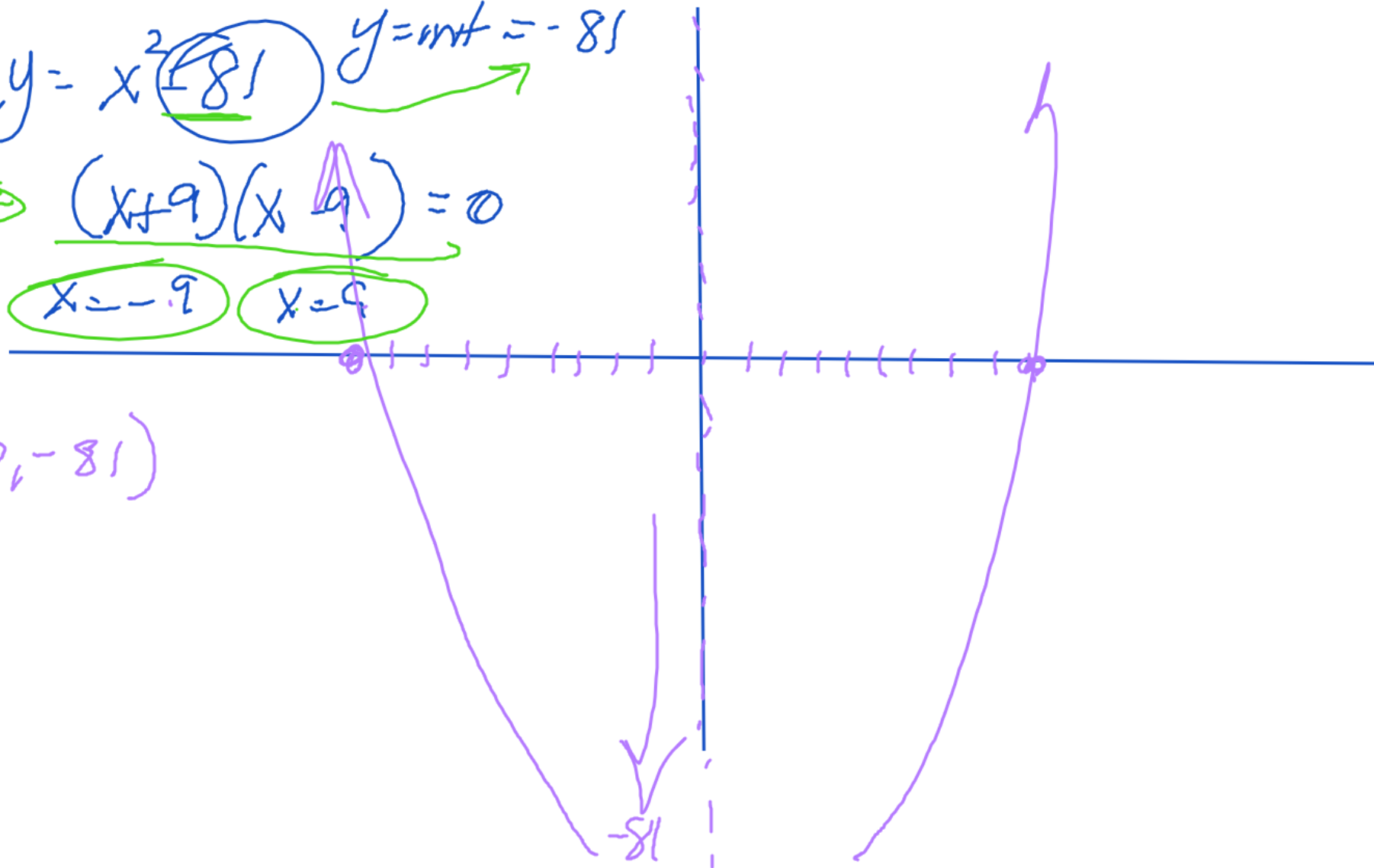


$$y = x^2 - 81 \quad y = \text{vert} = -81$$

$$\Rightarrow (x+9)(x-9) = 0$$

$$x = -9 \quad x = 9$$

$$(0, -81)$$



p 360

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6, 7, 18, 19, 21, 24, 25