

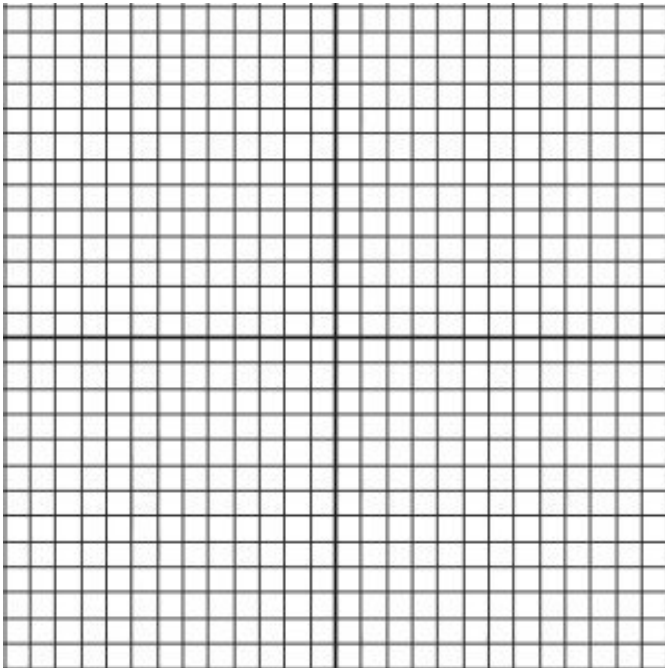
Quadratics Review

Name _____

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

- 1) Find the vertex. (_____, _____) 2) Find the axis of symmetry. _____

- 3) Make a t-chart for the equation.



x	y

- 4) Graph the equation.

- 5) Looking at the graph, what are the **solutions** of the equation $0 = x^2 + 2x - 8$? _____

- 6) Use the **quadratic formula** to solve $0 = x^2 + 2x - 8$.

- 7) Use **factoring** to solve $0 = x^2 + 2x - 8$.

- 8) Why can't the square roots method work to solve $0 = x^2 + 2x - 8$?

	Tell whether the vertex is a minimum or maximum.	Explain the shift. (ex. shifted up 3 units)	Is the graph wider or narrower than $y = x^2$?
9) $y = 2x^2 - 8$			
10) $y = \frac{1}{4}x^2 + 3$			
11) $y = -\frac{1}{2}x^2$			

Solve each equation.

12) $x^2 + 12 = 7x$

13) $2x^2 - 12 = 5x$

14) $x^2 - 81 = 0$

15) A rock is dropped from a 80 foot cliff. Use the equation $h = -16t^2 + 80$ (where h is height in feet at time t in seconds) to find how long it will take the rock to hit the ground.

16) A ball is dropped from a 212 foot building. Use the equation $h = -16t^2 + 212$ (where h is height in feet at time t in seconds) to find how long it will take the rock to hit the ground.