

Algebra 1 Chapter 9 Section 9.8 and 9.9
 Show Work on Another Paper for Credit!!

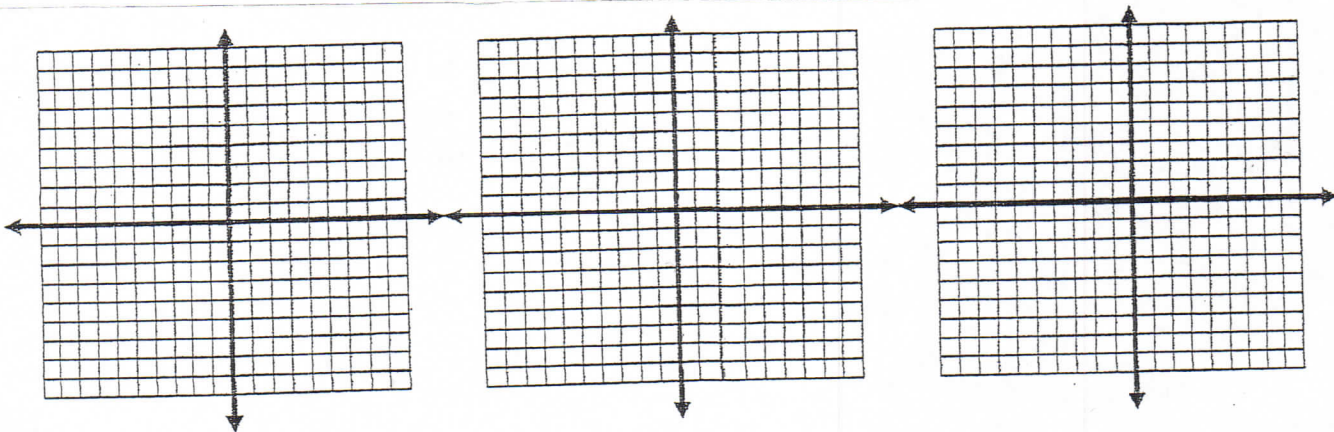
For the following Quadratic Equations find the following then Graph:

- a. Axis of Symmetry
- b. Vertex
- c. If it opens Up or Down
- d. Is it a Max or Min
- e. What is the Domain
- f. What is the Range
- g. Y-intercept
- h. Zeros/X-intercepts/Roots

1. $y = x^2 - 4x + 3$

2. $y = 3x^2 + 12x + 8$

3. $y = -x^2 + 2$



Axis of Symmetry: _____

Vertex: _____

Zeros: _____

Opens Up or Down: _____

Max or Min: _____

Domain: _____

Range: _____

y int: _____

Axis of Symmetry: _____

Vertex: _____

Zeros: _____

Opens Up or Down: _____

Max or Min: _____

Domain: _____

Range: _____

y int: _____

Axis of Symmetry: _____

Vertex: _____

Zeros: _____

Opens Up or Down: _____

Max or Min: _____

Domain: _____

Range: _____

y int: _____

24. A soccer player kicks a ball off the ground. The height of the ball can be modeled by the quadratic function $-0.5s^2 + 3s = h$, where s is the time in seconds after the kick and h is the height of the ball in feet.

- Find the maximum height of the ball.
- How long the ball is in the air.
- Find the height of the ball after 2 seconds.
- How long would the ball be in the air if it was kicked from a platform 0.5 ft above the ground?

25. A baseball is hit straight up in the air at 128 feet per second. The ball will be at a height h after t seconds, as given by the formula $h = 128t - 16t^2$. At what time(s) is the ball at a height of 144 feet?

26. A rocket is shot straight up in the air at 200 meters per second. The rocket will be at a height h after t seconds, as given by the formula $h = 200t - 5t^2$

- At what time(s) is the rocket at the height of 500 meters?
- How long is the rocket in the air?
- What is the maximum height of the rocket?

27. Nora jumps off a diving board into a swimming pool. Her height is h meters above the board after t seconds, as given by the formula $h = 8t - 5t^2$

- At what time is Nora 2 meters above the diving board?
- At what time is she 4 meters above the diving board?
- If the diving board is 3 meters above the water, how long is Nora in the air?