

## Agenda:

- 1) Hand in Orange Packet
- 2) Count off by 6- Find your group
- 3) Posters and Assigned problem
- 4) Presentations

***Homework: Finish the 6 class problems***

*More Quadratic Word Problems*

1) A skate boarder rides his skateboard up and off a ramp that is 2.5 feet above ground. If his height to the ground is given by the equation  $h(t) = -16t^2 + 12t + 2.5$

- a) Find his maximum height from the ground.
- b) How long is he in the air?

2) A parking lot is fenced off with 1000 feet of wire fence. The side of an office building is one of the boundaries of the parking lot. Find the **length** and **width** needed to maximize area with the given length of fence.

3) An object is fired upwards from the top of a 100 ft. tower at an initial velocity of 80 ft. per second. The height of the object  $t$  seconds after firing is given by  $h = -16t^2 + 80t + 100$ .

- a) Find the maximum height reached by the object.
- b) When will it hit the ground?

4. Key Neine has 120 ft. of fence to make a rectangular kennel for her dogs. If the house were to be used as one side of the kennel, what would the length and the width have to be to have a maximum area?
5. A toy rocket is fired upwards from the top of a 100 ft. tower at an initial velocity of 80 ft. per second. The height of the object  $t$  seconds after firing is given by  $h = -16t^2 + 80t + 100$ .
- Find the maximum height reached by the object.
  - When will it hit the ground?
6. A lacrosse ball is thrown straight up with an initial velocity of 64 ft/sec. The height of the ball  $t$  seconds after it is thrown is given by the formula  $h = 6 + 64t - 16t^2$ .
- What is the height of the ball after 1.5 seconds?
  - What is the maximum height of the ball?
  - After how many seconds will the ball return to the ground?