1. An object is shot into the air with an initial velocity of 144 ft/sec from the top of a 20 foot tall platorm.
The following equation models the objects height as a function of time:
$h(t) = -16t^2 + 144t + 20$

a) Find the maximum height of the object.

$\frac{-144}{2(-16)} = 4.5$

344 ft

b) Find the time it takes the object to reach this maximum height.

4.5 sec

(x, y)
(t, h)

2. Use this quadratic: $y = -4(x+3)^2 + 11$

a) Find the equation for the LOS.

$x = -3$

b) Find the coordinates of the Vertex.

$(-3, 11)$

$(x+3)^2$

$-4(x^2+6x+9)+11$

$-4x^2-24x-36+11$

$-4x^2-24x-25$

c) Find the y-intercept.

$-4(3)^2$
$-4(9) = -36+11 = -25$