Bell Work **Get your calc!** 4/21/2015

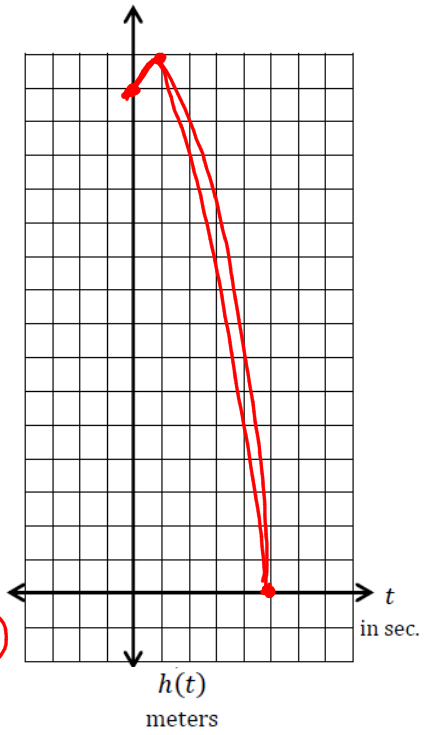
What do the following points on a parabola tell us about a projectile being launched into the air?

Y-intercept:

Vertex: see notes from yesterday

X-intercept(s):

5. The height of a diver, $h(t)$ in meters, is modeled by $h(t) = -(t + 3)(t - 5)$, where t is number of seconds since he began the dive. Graph and label the quadratic function to help you answer the questions below.



a) At what height did the diver begin his dive?

y-int; $t = 0$

$h = -(0+3)(0-5)$

$= -(3)(-5)$

$= 15$ meters

b) How many seconds did it take to reach the water?

$0 = -(t+3)(t-5)$

$t+3=0$ $\quad t-5=0$

$t=-3$ $\quad t=5$ seconds

c) What was the maximum height of the diver?

Vertex

$x = \frac{-3+5}{2} = \frac{2}{2}$

$x = 1$

$h = -(1+3)(1-5)$

$= -(4)(-4)$

$h = 16$ meters

d) How many seconds did it take to reach the maximum height?

$t = 1$ second

EOC Prep

Use your calculator.

Be confident.

If you don't know, use all resources to eliminate answers and choose the best.