

3.11 Review

The path of baseball thrown by Jimmy is

$$h = -0.5t^2 + t + 1.5$$



a) How high was the ball when it left Jimmy's hand?

1.5

b) When does the ball hit the ground?

Factor!

$$h = -0.5t^2 + t + 1.5$$

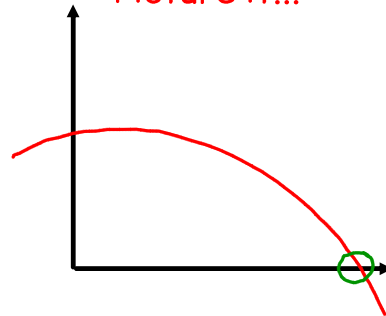
$$= -0.5(t^2 - 2t - 3)$$

$$= -0.5(t+1)(t-3)$$

M	-3
A	-2
N	1, -3

~~t = -1~~ & t = 3 ∴ Ball hits at t = 3s

Picture it...



c) When does the ball reach its maximum height? What is its maximum height?

AOS

$$t = \frac{-1+3}{2}$$

$$= 1$$

Sub int = 1

$$h = -0.5(1+1)(1-3)$$

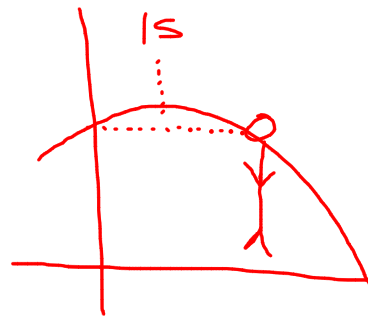
$$= -0.5(2)(-2)$$

$$= 2$$

∴ Max height of 2 at t = 1s

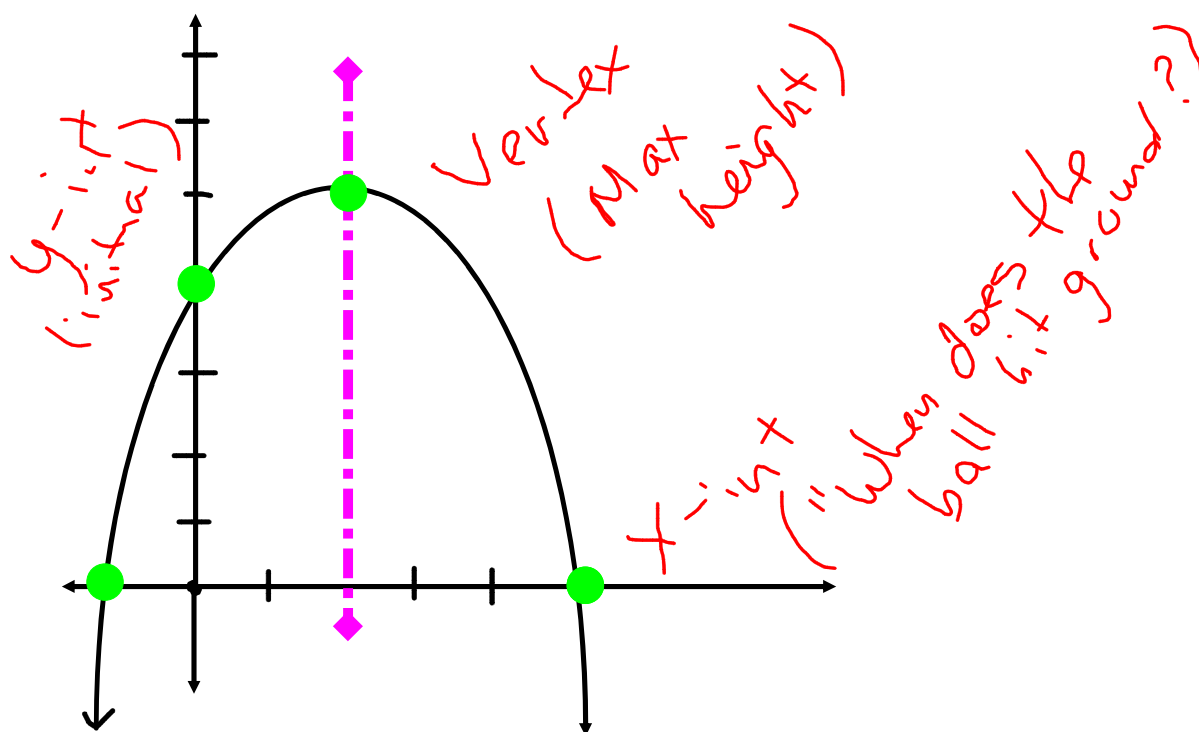
d) If Billy-Bob catches the ball at the same height as it was thrown, how long was the ball in the air?

It took 1s to get to the vertex. It will take 1 additional second to reach Billy-Bob.



∴ It will take 2 seconds.

PARABOLA



Work time:1. Complete last Days Homework/ Practice Test2. Make a study sheet, be sure to include the following concepts if needed:

- Graphing using: TOV, equation in vertex form, equation in factored form
- Graphing Parabolas
- Expanding Binomials
- Changing from vertex form to standard form
- Factoring
- Finding x-intercepts, y-intercepts
- Real world problems

3. Textbook Review

p226 # 1, 2, 11, 12

p286 # 3, 4, 6, 8cdef, 9, 10, 12, 13ac, 15

Practice test on the website