

p. 283 #12a) axis of symmetry?

$$h = \frac{5 + (-3)}{2} = \frac{2}{2} = 1$$

$$h = 1 = x$$

$\therefore x = 1$  is the axis of sym.  
\*remember it is a vertical line.

p. 283 #126) zeros are 5 & -3.

Use factored form  $y = a(x - s)(x - t)$

$$y = a(x + 3)(x - 5)$$

Use (6, 18) to solve for a

$$18 = a(6 + 3)(6 - 5)$$

$$18 = a(9)(1)$$

$$18 = 9a$$

$$a = \frac{18}{9} = 2 \quad \therefore \textcircled{a = 2}$$

$$y = a(x + 3)(x - 5)$$

Sub in  $a = 2$

$$y = 2(x + 3)(x - 5)$$

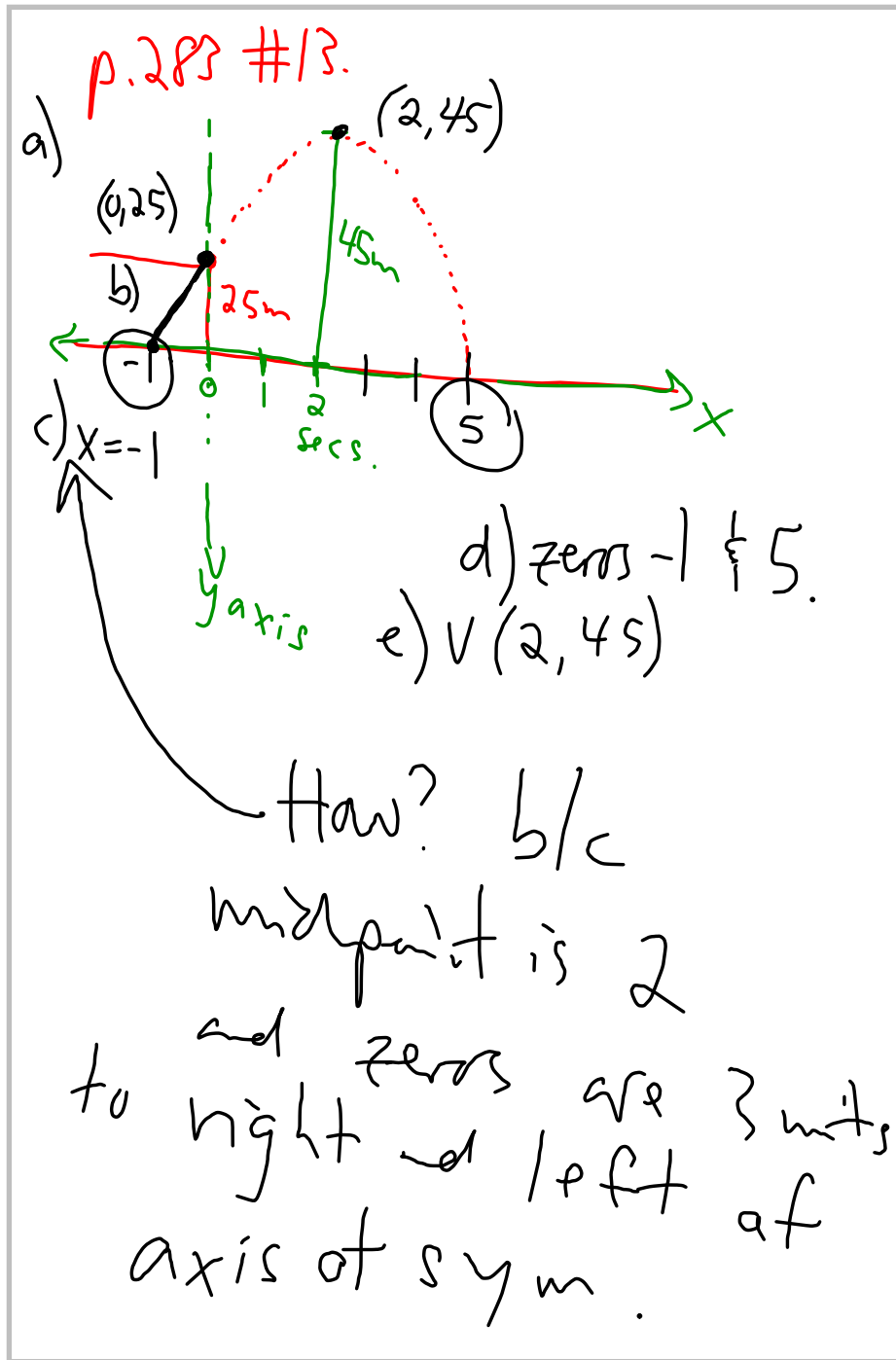
12c) vertex? use answer from 12a)  
↳  $h = 1$

Sub  $x = 1$  into eq. to solve for  $y$ .  
→ and  $y$  is  $k$  of the vertex

$$y = 2(x+3)(x-5)$$

$$y = 2(4)(-4)$$

$$y = -32 = k \quad \therefore V(1, -32)$$



f) eq. of parabola?

$$y = a(x+1)(x-5)$$

use (2, 45) to  
solve for  $a$ .

$$45 = a(3)(-3)$$

$$45 = -9a$$

$$a = \frac{45}{-9} = -5 \quad \therefore a = -5$$

$$\therefore y = -5(x+1)(x-5)$$

g) zeros are

$-1$   $\frac{1}{3}$   $5$



doesn't  
exist in  
context but  
it's needed  
for the eq.



it's when  
the ball  
lands.