

May 5 HW

MPM2D

$$(3.90 - 0.10n)$$

# 17.

$$\text{Revenue (sales)} = \text{Price} \times \text{Units (you sold)}$$

// // (120 + 20n.)  
//  
# of bags

Let  $n = 0.10$  price reduction original cost = \$3.90  
 $y =$  Revenue in \$.

$$y = (3.90 - 0.10n)(120 + 20n)$$

\* How many price reduction will result in revenue of \$700?  $\rightarrow$  Sub  $y = 700 \rightarrow$  equation

$$700 = (3.90 - 0.10n)(120 + 20n)$$

$$700 = 468 + 78n - 12n - 2n^2$$

$$0 = 468 - 700 + 66n - 2n^2$$

$$0 = -2n^2 + 66n - 232 \cong ax^2 + bx + c$$

-2            -2            -2

$$0 = -2(n^2 - 33n + 116)$$

$$ac = 116$$

$$b = -33$$

$$0 = -2(n - 29)(n - 4)$$

$$(-29) \times (-4) = 116$$

$$\therefore n = 29, 4$$

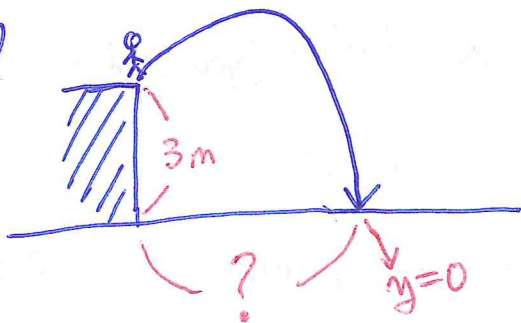
$$-29 - 4 = -33$$

$$\therefore 0.1 \times 4 = 40 \text{ cents } \text{reduction}$$

$$29 \times 0.1 = 2.9 = \$2.90 \text{ cents } \text{reduction}$$

May 5 HW

#7



∴ The horizontal distance the ball travelled is 3m.

$$y = -x^2 + 2x + 3$$

$y$  = height in m

$x$  = horizontal distance in m

$$0 = -x^2 + 2x + 3 \quad ax^2 + bx + c$$

$$0 = -(x^2 - 2x - 3) \quad ac = -3$$

$$0 = -(x-3)(x+1) \quad b = -2$$

$$-3 \times 1 = -3$$

$$x-3=0$$

$$x+1=0$$

$$-3 + 1 = -2$$

$$x=3$$

$$x=-1$$

reject it because he threw only one ~~ball~~ <sup>direction</sup>.

\* Test will occur tomorrow. (May 8)