

MAXIMUM PROBLEMS MAY 15/08

Ex #1 - BALL THROWN UPWARD

$$d = -16t^2 + 100t$$

a) 156.25 ft  
b) 3.125 sec  
c) 1.25 sec + 5 sec

Ex #2

$$y = (400 - 40x)(.80 + .10x)$$

MAX (1, 324)

A 10¢ INCREASE IN THE TICKET PRICE WILL YIELD A MAX PROFIT OF \$324.00

Ex #3

$$y = (800 + 60x)(25 - 1x)$$

MAX (5.83, 22041.67)

$25 - 5.83 = \$19.17$   
IS THE NEW PRICE  
IT WILL YIELD A MAX PROFIT \$22041.67

Ex #4

$$y = (120 - 2x)(x)$$

MAX (30, 1800)

$120 - 2(30)$   
 $120 - 60$   
60  
DIMENSIONS 60 BY 30  
WHICH WILL YIELD  
A MAX AREA 1800 m<sup>2</sup>

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Ex #5

$$y = (300 - x)(x)$$

MAX (150, 22500)

DIMENSIONS OF PEN  
 $300 - 150 = 150$   
 $150 \times 150$  m

MAXIMUM AREA  
 $22500$  m<sup>2</sup>

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