Answer: 1. D, 2. 60 #_____

Use quadratic regression to find the equation of a quadratic function that fits the given points.

X	0	1	2	3
Y	-9	-7.5	-4	1.5

E. $y = x^2 + 6.5x + 9$

F. $y = x^2 - .5x - 9$

G. $y = x^2 + .5x - 9$

H. $y = x^2 + 6x + 14$

Answer: 4 seconds #_____

Identify the intervals on which the function is positive: $y = x^2 + 4x - 21$

E. x < -7 and x > 3

F. -7 < x < 3

G. x > 7 and x < -3

H. 3 < x < 7

Answer: III. & IV. #_____

Write the product (3+i)(3-i) in the form a + bi.

J. 10

K. 9-i

L. 9+i

M. 9

Answer: A. $y = x^2 + 6x + 4$ #_____

What is the vertex of the graph of the function $y = x^2 + 8x + 10$?

A. (4, 6)

B. (-4, -6)

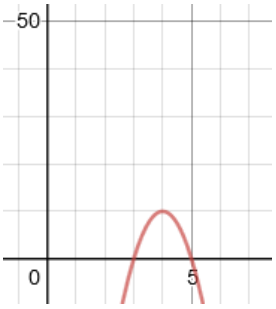
C. (6, 4)

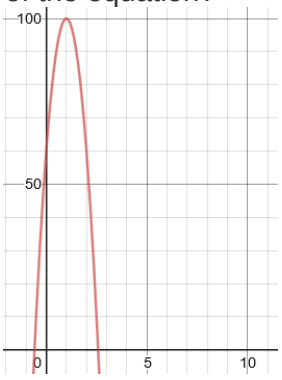
D. (6, -4)

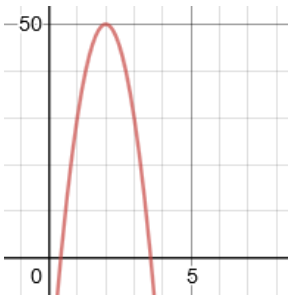
Answer: B. (-4, -6) #_____

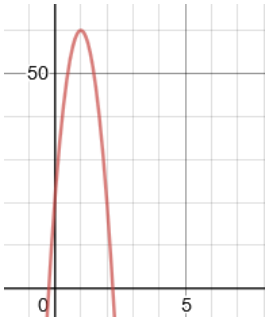
The path of a projectile launched from a tower is modeled by the equation: $y = -40x^2 + 80x + 20$.

1. Which is the correct graph of the equation?

A. 

B. 

C. 

D. 

2. What is the maximum height, in feet, of the projectile?

The maximum height is _____ feet.

Algebra 2 Common Assessment #1 – Topic 2 Name_____ Block_____

The answer to each question is in another box. Begin with #1 "START". Find the answer to #1 in the top of another box, then mark that box as #2. Repeat until all problems are worked and you reach "FINISH".

START Final Answer: K. $\frac{3}{17} - \frac{12}{17}i$ #1

What is the equation written in vertex form of a parabola with a vertex of (-4, 8) that passes through (-2, 0)?

A. $y = -2(x-4)^2 + 8$

B. $y = 2(x+4)^2 - 8$

C. $y = -2(x+4)^2 + 8$

D. $y = 2(x-4)^2 + 8$

Answer: G. $y = x^2 + .5x - 9$ #_____

Solve the equation $x^2 + 3x = 10$

E. x = 3 and x = 10

F. x = -3 and x = 10

G. x = 5 and x = -2

H. x = -5 and x = 2

Answer: E. x < -7 and x > 3 #_____

Use square roots to solve the equation $x^2 = -36$. Select all that apply.

I. -6

II. 6

III. 6i

IV. -6i

Answer: J. 10 #_____

Write the quotient $\frac{3}{1-4i}$ in the form a + bi

J. $3 - \frac{3}{4}i$

K. $\frac{3}{17} - \frac{12}{17}i$

L. $\frac{3}{17} + \frac{12}{17}i$

M. $3 + 4i$

Answer: H. x = -5 and x = 2 #_____

A ball is thrown from the top row of a stadium with a curve $h(t) = -5x^2 + 15x + 20$, where h is the height and t is the time in seconds after it is thrown. How long before the ball hits the ground?

The ball will hit the ground in _____ seconds.

Answer: C. $y = -2(x+4)^2 + 8$ #_____

Function *g* is a transformation of the parent function $f(x) = x^2$. The graph of g is a translation left 3 units and down 5 units of the graph of f. Write the equation for g in the form $y = ax^2 + bx + c$.

A. $y = x^2 + 6x + 4$

B. $y = x^2 - 3x - 5$

C. $y = x^2 + 6x - 4$

D. $y = x^2 + 6x + 14$