Algebra 1 ECA Remediation **Name _____**

Homework 38.1

1. A baseball is thrown into the air and its height (*h*), in feet, can be modeled by the equation $h = -16t^2 + 29t + 6$, where *t* represents time in seconds.

   How many seconds will it take for the baseball to hit the ground (*h*=0) after it is thrown into the air?

   Answer _____

2. Suppose a football player kicks a ball and the height (*h*) of the football in feet can be modeled by the equation $h = -16t^2 + vt + c$, where *t* is the time in seconds after the ball is kicked, *v* is the initial upward velocity, and *c* is the starting height.

   Write an equation that can be used to find the height (*h*) of the ball after *t* seconds if the initial upward velocity is 47 ft/sec and the starting height is 3 ft.

   Answer _____

   If the ball is not touched, how long will it take for the ball to reach the ground?

   Answer _____

3. A woman is going to jump into a pool from a diving board that is 50 ft above the water. Her height (*h*) above the pool can be modeled by the equation $h = -16t^2 + vt + c$, where *t* is the time in seconds after the woman jumps, *v* is the initial upward velocity, and *c* is her starting height.

   Write an equation that can be used to find the height (*h*) of the woman after *t* seconds if her initial upward velocity is 5 ft/sec.

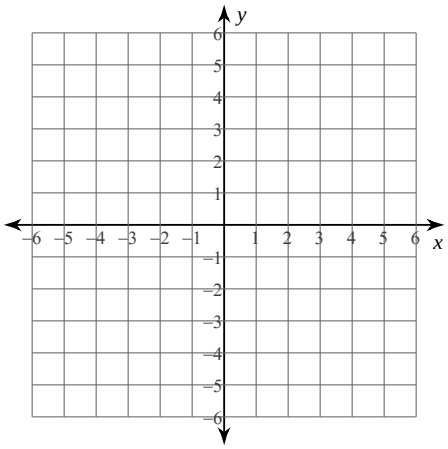
   Answer _____

   How many seconds will it take for the woman to hit the water?

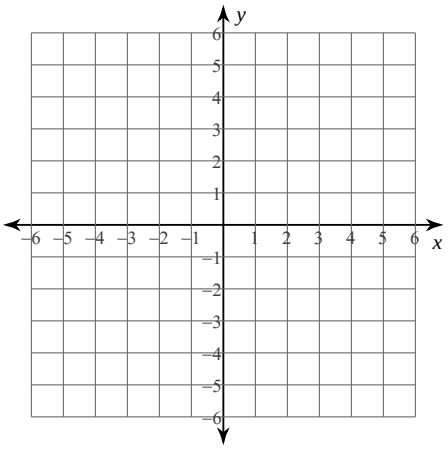
   Answer _____

Sketch the graph of each linear inequality.

4. $y \geq \frac{5}{3}x + 4$



5. $y > \frac{3}{4}x - 4$



Divide.

6. $(3v^3 + 2v^2 + 4v) \div 9v$

7. $(3x^3 + 12x^2 + 3x) \div 6x$

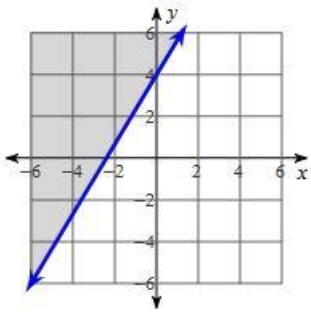
Answers to Homework 38.1

1. 2 seconds

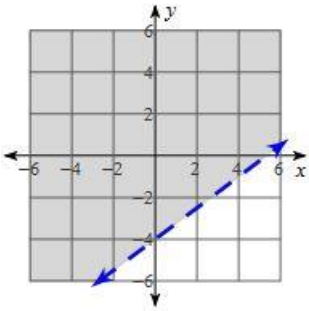
2. $h = -16t^2 + 47t + 3$; 3 seconds

3. $h = -16t^2 + 5t + 50$; 1.9 seconds,

4.



5.



6. $\frac{v^2}{3} + \frac{2v}{9} + \frac{4}{9}$

7. $\frac{x^2}{2} + 2x + \frac{1}{2}$