Algebra 1 ECA Remediation   **Name** _____

Homework 38.3

1.   A baseball is thrown into the air and its height (h), in feet, can be modeled by the equation $h = -16t^2 + 30t + 6$, 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 soccer player kicks a ball and the height (h) of the ball 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 20 ft/sec and the starting height is 6 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 60 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 4.5 ft/sec.
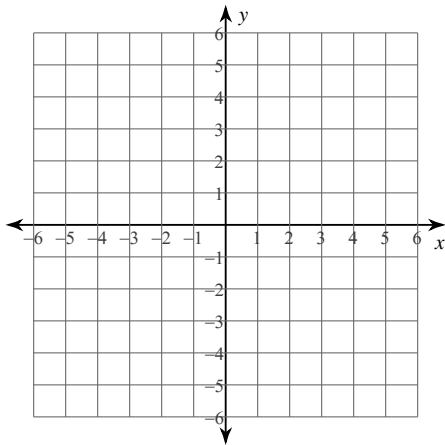
     Answer _____

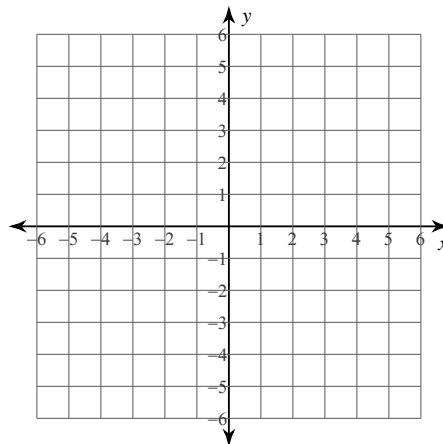   How many seconds will it take for the woman to hit the water?

     Answer _____

Sketch the graph of each linear inequality.

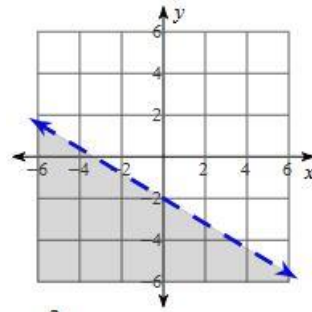4. $y < -\dfrac{3}{5}x - 2$

5. $y > -4x - 4$

Divide.

6. $\left(3m^3 + 3m^2 + 5m\right) \div 6m^3$

7. $\left(20p^5 + 20p^4 + 20p^3\right) \div 4p^3$
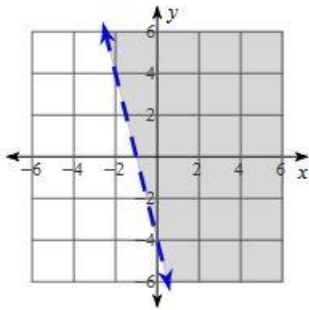
Answers to Homework 38.3

1. 2.1 seconds   2. $h = -16t^2 + 20t + 6$; 1.5 seconds
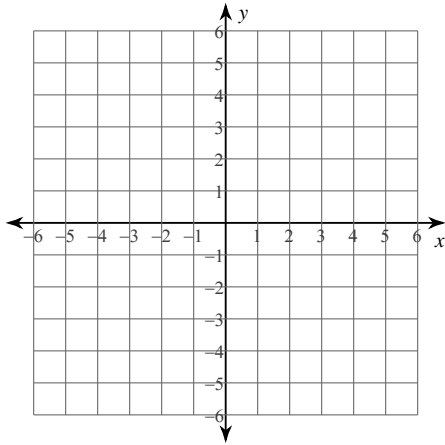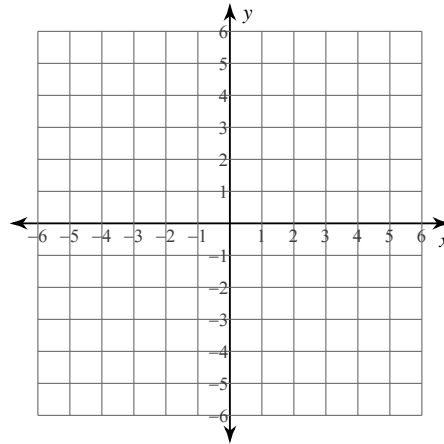

3. $h = -16t^2 + 60t + 4.5$; 3.8 seconds , 4.

5.

6. $\dfrac{1}{2} + \dfrac{1}{2m} + \dfrac{5}{6m^2}$ 7. $5p^2 + 5p + 5$

Sketch the graph of each linear inequality.

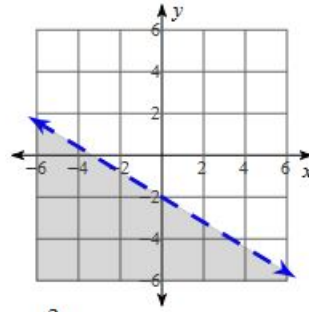1) $y < -\dfrac{3}{5}x - 2$

2) $y > -4x - 4$

Divide.

3) $\left(3m^3 + 3m^2 + 5m\right) \div 6m^3$

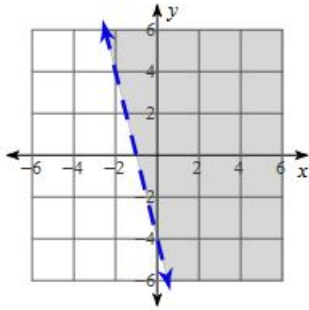4) $\left(20p^5 + 20p^4 + 20p^3\right) \div 4p^3$

Answers to Homework 38.3

1. 2.1 seconds
2. $h = -16t^2 + 20t + 6$; 1.5 seconds

3. $h = -16t^2 + 4.5t + 60$; 2.1 seconds, 4.

5.

6. $\dfrac{1}{2} + \dfrac{1}{2m} + \dfrac{5}{6m^2}$ 7. $5p^2 + 5p + 5$