

Quiz 1A, Business Calculus

Fall 2014 - Dr. Graham-Squire

Name: _____

1. (5 points) Dominic has attached his sister Eva's favorite stuffed animal bear to a rocket and is watching the rocket launch. Suppose that Dominic is standing 500 feet from the bottom of the rocket (on a flat field) as it takes off, and the rocket rises straight up at a rate of 200 feet per second. Answer these questions:
 - (a) Draw a diagram of the situation.
 - (b) What is the (diagonal) distance between Dominic and the rocket after 4 seconds? Round your answer to the nearest foot.

2. (2 points) Simplify the expression by removing parentheses and combining like terms.

$$4 - (6x - 3(x^2 + 2x + 4) + \sqrt{3^2 + 4^2})$$

3. (3 points) Simplify the expression by factoring and canceling, if possible. You can leave your answer in factored form. If you need to use it, the quadratic formula is $\left(\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}\right)$.

$$\frac{x^2 + x - 6}{x^2 - 16} \div \frac{x - 3}{2x - 8}$$