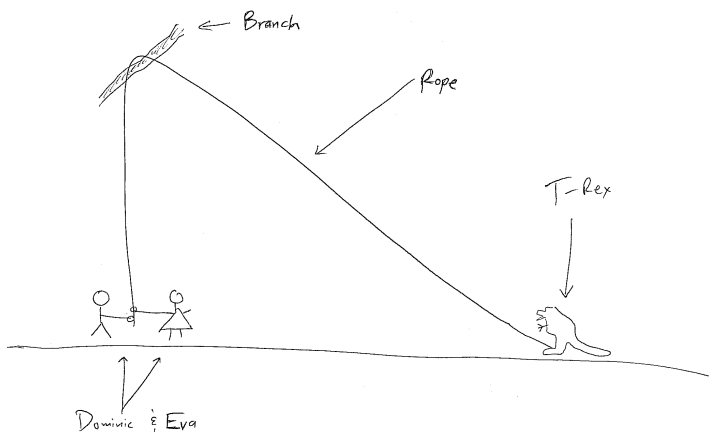


Quiz 4A, Calculus I - Calculators okay

Dr. Graham-Squire, Spring 2014

Name: _____

1. (4 points) Dominic and Eva have thrown a rope over a tree branch that is 10 feet high. They tied one end of the rope to a robotic dinosaur named Jagger the T-Rex, and they are pulling the other end of the rope so that Jagger is dragging along the ground. If they pull in the rope at 2 ft/sec, how fast is Jagger being dragged forward when he is 20 feet away from them? Show your work to receive full points. Round to nearest 0.01.



2. (3 points) Use calculus to find the absolute maximum and minimum of $f(x) = \frac{4x}{x^2 + 9}$ on the interval $[-1, 5]$. You can check your work with a graphing calculator, but you must show your work with calculus to receive full points.

3. (3 points) Approximate the value of $\sqrt{0.9}$ by using either differentials or linearization. You should not need a calculator to find your approximation, but you can use a calculator to check that your answer is close to the real value.