

Name: _____

Clear your desk of everything excepts pens, pencils and erasers. If you have a question raise your hand and I will come to you.

1. (1 point) **Multiple Choice. No work needed. No partial credit available.** Suppose you are trying to approximate $(30)^{\frac{1}{3}}$ using Newton's Method. Which of the following is your best choice?
- A. $f(x) = x^3 - 30$, and initial approximation $x_1 = 3$.
 - B. $f(x) = x^3 + 30$, and initial approximation $x_1 = 1$.
 - C. $f(x) = x^{\frac{1}{3}} - 30$, and initial approximation $x_1 = 3$.
 - D. $f(x) = x^{\frac{1}{3}} + 30$, and initial approximation $x_1 = 1$.
2. (1 point) **Fill-in-the-Blank. No work needed. No partial credit available.**
Based on my choice above, the next approximation x_2 would be _____.

Extra Work Space.

3. (3 points) Find the area of the largest rectangle that can be inscribed as shown in an equilateral triangle of side length 2. (Hint: Put the base of the triangle on the x -axis of the coordinate plane.)

