Math 141 Group Quiz 5

Names: _____

1. Find $\lim_{x \to \infty} \dfrac{(2x^2+5)^4}{1+x^8}$.

2. Which points on $x^2 - y^2 = 1$ are closest to $(4, 0)$?

3. A 10 inch wire is cut into two pieces. One piece is bent into a square, and the second piece is bent into a circle. Find where to cut as to maximize the sum of the area of the square and circle.

4. Find the area of the largest rectangle that lies above the x-axis and lies below the graph of $1 - x^2$.