

Math 141 Group Quiz 3

Names: _____

1. Let $f(x) = x / \sqrt{x^2 + 1}$.

a. Why is $f(x)$ always increasing?

b. At which value of x is $f(x)$ changing most rapidly?

c. Find the line tangent to the graph when $x = 1$.

2. Find all points on the curve $x^2y^2 + xy = 2$ where the slope of the tangent line is -1 .

3. Find all places where the tangent line to the curve $x^2 - xy + y^2 = 1$ is either vertical or horizontal.