

Math 133

Quiz 1 – Sample

September 8, 2008

You may use your calculator. Indicate any calculations you do with the calculator and show your algebra whenever calculations are done by hand.

1. Find the equation of the line \mathcal{L} passing through the points $(-2, 4)$ and $(3, 6)$. Use the equation to determine whether $(1, 5)$ lies on this line.
2. Factor the cubic polynomial $P(x) = x^3 - 7x + 6$. Use your factorization to find the roots of P . Do this calculation by hand and show your work.
3. Let $f(x) = \frac{3x-2}{4x+2}$.
 - (a) Where is the
 - i. the x -intercept of f ?
 - ii. the horizontal asymptote of f ?
 - iii. the vertical asymptote of f ?
 - (b) Sketch the graph of f .
4. (a) What is the range of the function $f(x) = 2 \sin(x) + 1$?
(b) What is the domain of the function $f(x) = \sqrt{x^2 - 1}$.