

231 Quiz 1

Name: _____

September 3, 2013

You may use your hand-written Notebooks but no other materials and no technology at all.

1. Determine whether each of the following is true (T) or false (F).

T F If a and b are rational numbers then so is $a + b$.T F If a and b are rational numbers then so is $\frac{a}{b}$.

T F Every integer is a rational number.

T F $11.9999\bar{9} = 12$ T F $1.5 \in \{x \in \mathbb{R} \mid x - 2 > 0\}$ T F $[-1, 3) \cap (-\infty, -2) = (-2, -1]$ T F $(-\infty, 5) \cup [0, \infty) = \mathbb{R}$ T F $\{x \mid 0 < \text{dist}(3, x) < 2\} = (1, 3) \cup (3, 5)$ T F If $\frac{A}{B} = 0$ then $A = 0$ or $B = 0$.T F The equation $x^2 + 2x - 7 = 0$ has no real number solutions.T F The equation $16x^4 - 81 = 0$ has exactly four real number solutions.T F $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$ T F $\frac{1}{\frac{1}{x} + \frac{1}{y}} = x + y$ T F For all $x \in \mathbb{R}$ we have $\frac{(x+1)(x+2)}{x+1} = x+2$.T F When a function f is positive, the graph of its derivative f' is increasing.T F When a function f has a steep slope at a point on its graph, its instantaneous rate of change at that point will have a large magnitude.T F The instantaneous rate of change of a function f at a point $x = a$ can be represented as the slope of a secant line.

T F Three is the best number.