

VERSION 2

231 Quiz 2.

January 27, 2011

Name _____ *key*

By printing my name I pledge to uphold the Honor Code.

Work individually. You may use your Notebooks but no loose papers, printouts, photocopies, books, calculators, cell phones, or other resources.

True/False party!

- T F For all $x \in \mathbb{R}$, there exists some $y \in \mathbb{R}$ such that $x = y^2$. e.g. $x = -1$
- T F For all $y \in \mathbb{R}$, there exists some $x \in \mathbb{R}$ such that $x = y^2$. just let $x = y^2$
- T F If $f(x)$ has a global max at $x = c$ then $f(c) \geq f(x)$ for all $x \in \text{dom}(f(x))$. defin
- T F If $g(x)$ is a function then we can write $f(x) = |g(x)|$ as a piecewise function. yep
- T F For all real numbers x , the quantity $|x|$ is equal to $\sqrt{x^2}$. e.g. $\sqrt{(-2)^2} = \sqrt{4} = 2$
- T F Every local maximum of $f(x)$ is also a global maximum of $f(x)$. local \nrightarrow global
- T F Every constant function is a linear function. $c = 0x + c$
- T F Every proportional function is a linear function. $kx = kx + 0$
- T F Every linear function is a power function. $3x + 1$ not Ax^k form
- T F Every power function is a polynomial function. $x^{1/2}$ not poly
- T F Every polynomial function is a rational function. $\frac{\text{poly}}{1}$
- T F Suppose $f(x) = 3x + 1$. For all $a, b \in \mathbb{R}$, if $a < b$ then $f(a) < f(b)$. inc.
- T F Suppose $f(x) = 3x + 1$. For all $a, b \in \mathbb{R}$, if $f(a) = f(b)$ then $a = b$. 1-1
- T F Suppose $f(x) = x^2$. For all $a, b \in \mathbb{R}$, if $a < b$ then $f(a) < f(b)$. not inc.
- T F Suppose $f(x) = x^2$. For all $a, b \in \mathbb{R}$, if $f(a) = f(b)$ then $a = b$. not 1-1
- T F A function can have different average rates of change on different intervals. any nonlinear
- T F The converse of an implication statement is also an implication statement. $B \Rightarrow A$
- T F When A is true and B is false, then the implication $A \Rightarrow B$ is false. the only way
- T F When A is false and B is true, then the implication $A \Rightarrow B$ is false. says nothing
- T F I would like a free point for this problem. yay