

Support for College Algebra
University of North Georgia
Fall 2015
Quiz #4

Name: Key Date: September 30, 2015

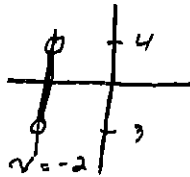
Show ALL work!

Determine whether the following relation is or is not represents y as a function of x : Support your answer!

1. $\{(-7,2), (5,-6), (4,4), (3,5), (5,7), (2,-3), (8,-7)\}$

not a function $\rightarrow (5,-6) \& (5,7)$

2. $\{(-2,y) \mid -3 < y < 4\}$ *not a function*



3. Let $f(x) = -x^2 + 3x + 4$, find and simplify $f(x+3)$

$$\begin{aligned} f(x+3) &= -(x+3)^2 + 3(x+3) + 4 \\ &= -(x+3)(x+3) + 3x + 9 + 4 \\ &= -(x^2 + 6x + 9) + 3x + 13 \\ &= -x^2 - 6x - 9 + 3x + 13 \\ &= -x^2 - 3x + 4 \end{aligned}$$

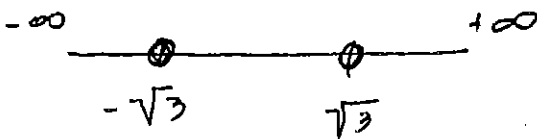
4. Find the Domain and write it interval notation: $f(x) = \frac{2x}{x^2-3}$

Denominator $\neq 0$!

Set $x^2 - 3 = 0$

$x^2 = 3$

$x = \pm \sqrt{3}$



$D: (-\infty, -\sqrt{3}) \cup (-\sqrt{3}, \sqrt{3}) \cup (\sqrt{3}, \infty)$