Recitation Group Activity Workheet#1 Answers

Algebra Review

1) Rationalize the denominator and simplify. Write down the steps for solving this problem also. **ANSWERS**

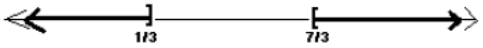
$$\frac{x-3}{\sqrt{x}-\sqrt{3}}$$

$$\sqrt{x}+\sqrt{3}$$

2) Solve the inequality and graph the solution on the number line.

$$|3x-4| \geq 3$$

$x \leq 1/3$ or $x \geq 7/3$

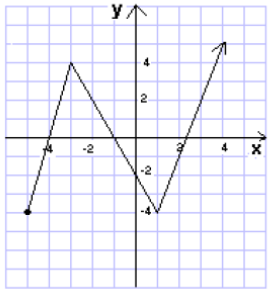


3) Given f(x) define by the table below left, and g(x) defined by the graph below right:

$f(x)$ defined by

x	f(x)
−1	3
0	1
1	−2
2	−3

$g(x)$ defined by the graph below:



Find

a) $f(2)$
b) $(f \circ g)(2)$
c) $g(f(1))$

a) -3 **b)** 3 **c)** 2

4) Given $f(x)=\frac{5x}{x+1}$, find and simplify $\frac{f(x+h)-f(x)}{h}$.

$$\frac{5}{(x+h+1)(x+1)}$$

5) Find the domain of f(x) and express your answer using interval notation such as (1, 8), [-2,10) etc. You must show your analysis to receive full credit.

$$f(x)=\sqrt{\frac{x+3}{x-4}}$$

$$(-\infty,-3]\cup(4,\infty)$$

6)

Given $f(x)=\begin{cases} x+1 & if \quad x<0 \\ x^2-1 & if \quad 0\le x<2 \\ 4 & if \quad x\ge 2 \end{cases}$

a) Evaluate the following: f(-2), f(2), f(10)
b) Provide a rough sketch of the function.
c) What is the type/name of this function?

a) -1, 4, 4

c) Piece-wise function