Math 32 Warm-up Quiz

GSI: Theo Johnson-Freyd
http://math.berkeley.edu/∼theojf/08Fall32/

Thursday, September 4, 2008

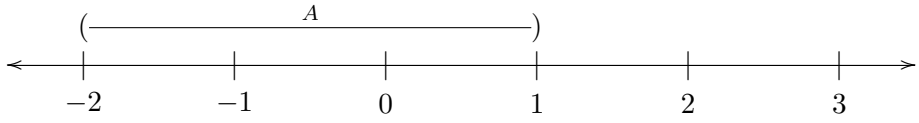
Name: _____ Score: /10

You have twenty minutes to complete this quiz. You may not use calculators or notes, but the chalkboards are yours.

1. (5 pts) Complete the following table, indicating whether each real number is a natural number ($\mathbb{N}$), an integer ($\mathbb{Z}$), a rational number ($\mathbb{Q}$), or an irrational number ($\mathbb{R} \setminus \mathbb{Q}$).

	$\mathbb{N}$	$\mathbb{Z}$	$\mathbb{Q}$	$\mathbb{R} \setminus \mathbb{Q}$
-2		✓	✓	
77				
π				
$\sqrt{3}+2$				
5^{-1}				
$\dfrac{1-\frac{7}{2}}{3+\frac{4}{5}}$				

2. Use the following number line to complete the questions.



(a) (1 pt) Use set notation to describe the region that is already graphed on the above number line.

(b) (1 pt) On the above number line, graph the region described by the set

$$\{x \in \mathbb{R} : x \leq 0 \text{ or } 2 \leq x\}$$

Label your graph B.

(c) (2 pts) Describe the set of numbers that are strictly less than 2 units away from the number 1 using set notation. Graph the set on the above number line, labeling the graph C.

(d) (1 pt) Without using a calculator, label the point $D = \pi - 2$ on the above number line.