Math 002 P1 **Name:** Solutions

Quiz # 2

September 9, 2014 No electronic devices or interpersonal communication allowed. Show work to get credit.

(1) Place an 'x' in a cell below if (and only if) the number for that row belongs in the set for that column.

		$\mathbb{N}$	$\mathbb{W}$	$\mathbb{Z}$	$\mathbb{Q}$	$\mathbb{R}$
	$1/2$				X	X
$2=$	$2/1$	X	X	X	X	X
	$-2/1$			X	X	X
$0=$	$0/2$		X	X	X	X
	$2/0$					
$2=$	$\sqrt{4}$	X	X	X	X	X
	$\sqrt{5}$					X
	$\sqrt{-4}$					
$-2=$	$-\sqrt{4}$			X	X	X

(2) Simplify $\frac{3}{20} - \frac{1}{14}$. $= \frac{3 \cdot 7}{2^2 \cdot 5 \cdot 7} - \frac{1 \cdot 2 \cdot 5}{2 \cdot 7 \cdot 2 \cdot 5} = \frac{21 - 10}{2^2 \cdot 5 \cdot 7} = \frac{11}{2^2 \cdot 5 \cdot 7} = \boxed{\frac{11}{140}}$

$20 = 2^2 \cdot 5$

$14 = 2 \cdot 7$

$\text{lcm} = 2^2 \cdot 5 \cdot 7$

(3) Evaluate $(3 - 2(3+2))(-3^2)$.

$= (3 - 2 \cdot 5)(-9)$

$= (3 - 10)(-9)$

$= (-7) \cdot (-9)$

$= \boxed{63}$

(4) Rewrite $|\pi - 7|$ without absolute value signs.

$\pi - 7 < 0$, so

$|\pi - 7| = -(\pi - 7) = \boxed{-\pi + 7}$