Math 200 - Quiz 9

Name __key__

April 11, 2012

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (1 point) Use an integer subtraction model to model $-3 - 2$.

NUMBER LINE: ① START A ZERO FACING RIGHT

② BACK UP 3 UNITS

③ TURN AROUND

④ MOVE FORWARD 2

END AT -5 ⟹ $-3 - 2 = -5$

2. (1 point) What is the additive inverse of $y - 6$? After answering that question, use your additive inverse to simpifly $8 + y - (y - 6)$.

$y - 6 = y + (-6)$

ADD $-y + 6$ TO get ZERO

So ADDITIVE INVERSE IS $\boxed{-y + 6}$

$8 + y - (y - 6) = 8 + y + (-y) + 6$

$= \boxed{14}$

3. (1.5 points) Compute each of the following.

(a) $-5 - (-2)$ $= \boxed{-3}$

(b) $3 - (-5)$ $= 3 + 5 = \boxed{8}$

(c) $8 \times (-7)$ $= \boxed{-56}$

4. (1 point) Use an integer multiplication model to model $-2 \times (-3)$.

START WITH ZERO

$\pm\ \pm\ \pm$
$\pm\ \pm\ \pm$

NOW TAKE OUT 2 GROUPS OF 3 $-$'s TO GET

$+\ +\ +$
$+\ +\ +$

$-2 \times (-3)$
$= +6$

5. (0.5 point) Suppose x is a negative integer and y is a positive integer. What is the sign of $-x \div (-y)$? Explain.

$-x \div (-y)$ = POSITIVE NUM $\div$ NEGATIVE NUM

$=$ NEGATIVE NUM

⟹ SIGN OF $-x \div (-y)$ IS NEGATIVE.