

# Math 200 - Quiz 11

November 28, 2012

Name key

Score \_\_\_\_\_

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

1. (3 points) Zasha used the number line to model  $-5 - 2$ . Here is what she said:

"Start at zero facing right. Turn around, go five. Back-up two. You end up at negative three. Therefore,  $-5 - 2 = -3$ ."

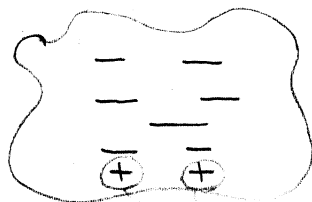
(a) Is Zasha correct? If not, correct her application of the number line model.

No. START AT ZERO FACING RIGHT. BACK UP FIVE.

TURN AROUND. GO TWO. END AT -7.

$$-5 - 2 = -7$$

(b) Use a different model to illustrate Zasha's problem.



START WITH A CHARGE OF -5  
(5 -'s AND 2 NEUTRALS).

TAKE OUT TWO POSITIVES.  
LEFT WITH 7 NEGS.

(c) What fact would Zasha be modeling if she said,

"Start at zero facing right. Back-up five. Then back-up two. You end up at negative seven."

$$-5 + (-2) = -7$$

2. (2 points) Find the LCM and GCD of 2160 and 1400.

$$\begin{array}{r} 1 \\ 1400 \overline{) 2160} \\ \underline{1400} \phantom{0} \\ 760 \end{array}$$

$$\begin{array}{r} 1 \\ 760 \overline{) 1400} \\ \underline{760} \phantom{0} \\ 640 \end{array}$$

$$\begin{array}{r} 5 \\ 640 \overline{) 1400} \\ \underline{640} \phantom{0} \\ 180 \end{array}$$

$$\begin{array}{r} 3 \\ 600 \overline{) 1800} \\ \underline{600} \phantom{0} \\ 120 \\ \underline{120} \\ 0 \end{array}$$

$$\text{GCD}(40, 0) = 40$$

$$\boxed{\text{GCD} = 40}$$

$$\text{LCM} = \frac{2160 \cdot 1400}{40} = 54 \cdot 1400$$

$$\boxed{\text{LCM} = 75600}$$