

# Math 200 - Quiz 9

November 10, 2010

Name Key

Score \_\_\_\_\_

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

1. (1 point) Use a pattern to show that  $3 \times (-3) = -9$ .

$$\begin{aligned} 3 \times 3 &= 9 \\ 3 \times 2 &= 6 \\ 3 \times 1 &= 3 \\ 3 \times 0 &= 0 \end{aligned}$$

WHEN THE 2<sup>ND</sup>  
FACTOR  
DECREASES BY 1,  
THE PRODUCT  
DECREASES BY 3

$$3 \times (-1) = -3$$

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

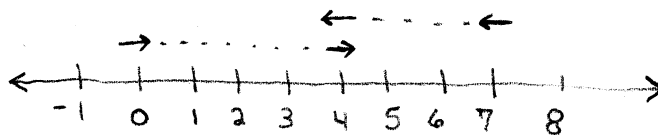
$$3 \times (-3) = -9$$

2. (1 point) Use any model to illustrate the subtraction:  $4 - (-3)$ .

NUMBER LINE:

- ① START AT ZERO FACING RIGHT
- ② MOVE FORWARD 4 UNITS
- ③ TURN AROUND
- ④ MOVE BACKWARD 3 UNITS

⑤ END AT 7:  $4 - (-3) = 7$



3. (1 point) Carefully state the rule for adding two numbers with opposite signs.

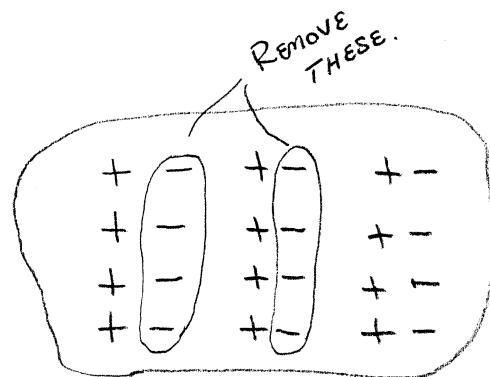
SUBTRACT THEIR ABSOLUTE VALUES, LEAST FROM GREATEST,  
AND GIVE THE RESULT THE SIGN OF THE NUMBER  
WITH THE GREATER ABSOLUTE VALUE.

4. (1 point) Use any model to illustrate  $-2 \times (-4)$ .

CHARGES:

- ① START WITH A FIELD OF CHARGE ZERO
- ② TAKE OUT TWO GROUPS OF 4 NEGATIVES.

③ REMAINING FIELD HAS CHARGE +8.



5. (1 point) What is the sign of the result of dividing a negative number by a negative number? Explain how you know.

$$\text{NEG} \div \text{NEG} = \text{POS}$$

BECAUSE  $\text{POS} \times \text{NEG} = \text{NEG}$ .

(MISSING FACTOR MODEL)