

Name \_\_\_\_\_

MATH 221: BASIC CONCEPTS OF ELEMENTARY MATHEMATICS I

Quiz #9

Points: Each problem is worth 4 points.

1. A student is asked to use chip arithmetic to calculate  $-3 - 2$  (negative 3 minus 2). She begins by placing 3 red chips on her desk. What is the next step the student should do for a proper use of the chip model? (Note: the next step might not be the last step.)

- (a) Flip over two of the red chips so that they become blue chips.
- (b) Place down two more red chips to make a total of five red chips.
- (c) Take away two of the red chips leaving just one red chip on the desk.
- (d) Place down a blue chip and a red chip and then do it again so that there are five red chips and two blue chips on the table.

2. What property of the integers is illustrated by

$$(-3) \cdot (4 + 5) = (4 + 5) \cdot (-3)?$$

- (a) the commutative property of multiplication of integers
- (b) the associative property of multiplication of integers
- (c) the closure property of multiplication of integers
- (d) the distributive property of multiplication over addition of integers