

# Math 200 - Quiz 7

October 27, 2010

Name key

Score \_\_\_\_\_

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

1. (1 point) Write an application problem involving a basic division fact in which the division is best modeled by the set partition approach.

JOHN HAS 12 CANDY BARS THAT HE WILL DIVIDE EVENLY AMONG THE 4 TRICK-OR-TREATING CHILDREN AT HIS DOOR. HOW MANY CANDY BARS WILL EACH CHILD GET?

$$12 \div 4 = 3 \Rightarrow 3 \text{ BARS PER CHILD.}$$

2. (1 point) Write an application problem involving a basic division fact in which the division is best modeled by the repeated subtraction approach.

MAURICE IS PLANNING TO MAKE CURTAINS OUT OF 54 SQUARE FEET OF MATERIAL. EACH CURTAIN REQUIRES 9 SQUARE FEET. HOW MANY CURTAINS CAN HE MAKE?

$$54 \div 9 = 6 \Rightarrow 6 \text{ CURTAINS}$$

3. (1 point) Briefly describe the difference between the set partition model and the repeated subtraction model.

IN SET PARTITION, WE DIVIDE AND ASK HOW MANY IN EACH GROUP.

IN REPEATED SUBTRACTION, WE ASK HOW MANY GROUPS.

4. (1 point) Use the missing factor model to model  $24 \div 4 = 6$ .

$$24 \div 4 = \square$$

PROVIDED

$$\square \times 4 = 24$$

MISSING FACTOR  $\square$

IS 6.

5. (1 point) When 68 is divided by a number, the remainder is 8. Find all possible divisors.

$$68 = bq + 8 \text{ WHERE } b \text{ IS THE DIVISOR AND } q \text{ IS THE QUOTIENT.}$$

WE MUST HAVE  $b > 8$ .

$$bq = 60 \Rightarrow b \text{ IS A FACTOR OF } 60.$$

$$b > 8 \Rightarrow$$

$$\Rightarrow b = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60$$

POSSIBLE  $b$ 'S ARE  
10, 12, 15, 20, 30, 60