

# Math 200 - Quiz 8

October 31, 2012

Name key

Score \_\_\_\_\_

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

1. (1 point) Answer the question and tell which multiplication model is illustrated by the following problem situation: *There are 15 students in Math 107 and 9 students in Psych 111. A pair is formed by selecting one student from each class. How many different pairs of students are possible?*

$$9 \cdot 15 = 135$$

"How many combinations?"

CARTESIAN PRODUCT MODEL

2. (1 point) Use a multiplication model to justify the use of the distributive property in the following fact:  $3 \cdot (4 + 2) = 3 \cdot 4 + 3 \cdot 2$ .

$$\begin{aligned} 3 \cdot (4 + 2) &= (4 + 2) + (4 + 2) + (4 + 2) \\ &= (4 + 4 + 4) + (2 + 2 + 2) \\ &= 3 \cdot 4 + 3 \cdot 2 \end{aligned}$$

3. (1 point) Write an application problem involving the division fact  $15 \div 3 = 5$  where the division is best modeled using repeated subtraction.

JOHN HAS 15 POKEMON CARDS. HE GIVES 3 TO EACH OF HIS FRIENDS. HOW MANY FRIENDS GET CARDS?

4. (1 point) Without doing any division, show that  $37 \div 8$  cannot be 4 remainder 6.

$$8 \cdot 4 + 6 = 38 \neq 37$$

5. (1 point) Use a nontraditional multiplication algorithm to compute  $368 \times 45$ .

		3	6	8	
1	1	2	3		
	2	4	2		4
6	1	3	4		
	5	0	0		5
	5	6	0		

16,560