Math 141 – Su '04 _____ NAME: _____ Answers _____

Quiz # 3 20

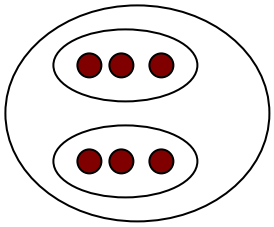
sec 3.1-3.3 Seat: _____

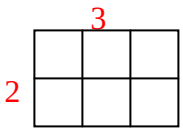
Partial credit is based on work shown!

4pts

1. Illustrate that 2 x 3 = 6 using two different types of drawings (There were 4 types in the text) .

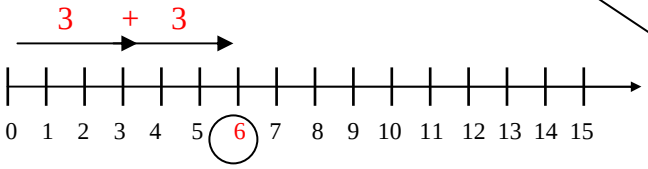
a.





2 x 3 = 6

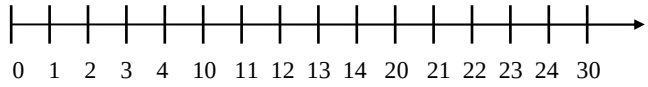
b. 3 + 3



4pts

2. Use the base five number line to do the following problems. Illustrate your work on the number line.

a. 3 + 4 = 12 five



b. 4 + 4 + 4 = 22 five

a. $3_{five} + 4_{five} =$ 12 $_{five}$

b. $3_{five} \times 4_{five} =$ 22 $_{five}$

3pts

3. Give the name of the property of whole numbers that each of the following illustrates.

a. (6 + 5) + 2 = 6 + (5 + 2) _____ associative property _____

b. 2 (3 + 5) = 2(3) + 2(5) _____distributive property _____

c. (4 x 8) x 9 = (8 x 4) x 9 _____ commutative property ____

3pts

4. Is the set of odd whole numbers closed for subtraction? __NO____

Explain.

When you subtract two odd whole numbers you may get answers that are NOT in this set of odd whole numbers.

For example: 11- 7 = 4 which is an even number or 11 -15 = - 4 which is a negative even number.

2pts

5. Explain how to answer this problem, 0 ÷ 8 = ☐ , by using the **definition of division** to rewrite it a multiplication problem.

0 ÷ 8 = ☐ if and only if ☐ x 8 = 0. Thus you can fill in the "box" with the number zero.

4pts

6. Simplify, showing your steps to illustrate the rules for working with exponents.

a. $\frac{5^6}{5^2} = 5^{6-2} = 5^4$

or $\frac{5 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 5}{5 \cdot 5} = 5^4$

b. $4^3 \cdot 2^5 = \left(2^2\right)^3 2^5 = 2^6 2^5 = 2^{11}$