Name: _____ Period: _____ Date: _____

Unit 1 Test **Math 3**

Part A:

1. Using the commutative property, what is another way to write 5 x 6?

6 x 5

2. What letter did not use the distributive property correctly?
   a. 2 x 9 = 2 x (4 + 5) = (2 x 4) + (2 x 5) = 18
   b. 3 x 8 = 3 x (4 + 4) = (3 x 4) + (3 x 4) = 24
   c. 9 x 5 = (3 + 6) x 5 = (3 x 5) + (6 x 5) = 45
   d. 7 x 4 = (3 + 4) x 7 = (3 x 7) + (4 x 7) = 28

3. Which equation will not have a similar representation as the rest?
   a. 8 x 3 = 24
   b. 6 x 4 = 24
   c. 24 ÷ 4 = 6
   d. 4 x 6 = 24

4. What is the product of 6 and 3?
   a. 12
   b. 3
   c. 18
   d. 24

5. What is the quotient for the expression 28 ÷ 4?
   a. 2
   b. 7
   c. 10
   d. 12

Part B:

6. Explain how 9 x 5 is the same as adding the products of 3 x 5 and 6 x 5.

The expression 9 x 5 is the same as adding the products of 3 x5 and 6 x 5 because this is using the distributive property of multiplication. The value 9 was broken into its two addends, 3 and 6. Then, we multiply 5 to both addends. 3 x 5 = 15 and 6 x 5 = 30, and 15 + 30 = 45, the product of 9 x 5.

7. How is the expression 32 ÷ 4 related to 4 x 8?

The expression 32 ÷ 4 has an answer of 8. The expression 4 x 8 has an answer of 32. They are related because both expressions are in the same fact family. The two expressions include the values 4, 8 and 32.

8. Explain if the equation below is correct or incorrect:

$$7 \times 5 = 20 + 10 = 30$$

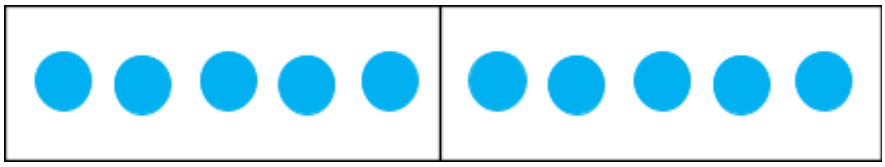
The equation is incorrect. 7 x 5 is equal to 35 not 30. 30 is the product of 6 and 5. 7 x 5 can be decomposed into 4 x 5 and 3 x 5. However, the expression 20 + 10 comes from (4 x 5) + (2 x 5), which is decomposed expressions of 6 x 5.

Part C:

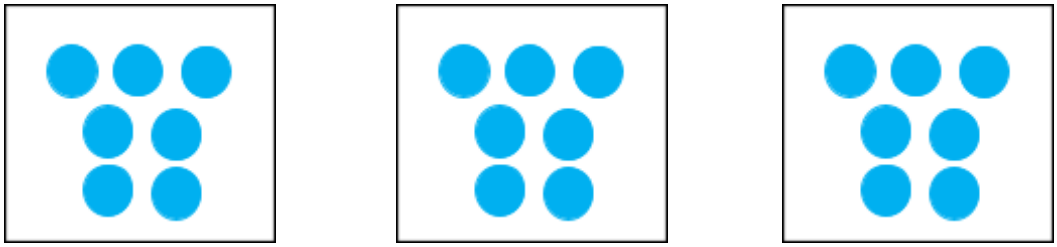
Complete the equations and match them to their corresponding illustration.

9. 3 x 8 = 24 is represented by the illustration C
10. 5 x 2 = 10 is represented by the illustration A
11. 4 x 9 = 36 is represented by the illustration D
12. 10 ÷ 2 = 5 is represented by the illustration A
13. 7 x 3 = 21 is represented by the illustration B
14. 36 ÷ 4 = 9 is represented by the illustration D

A.

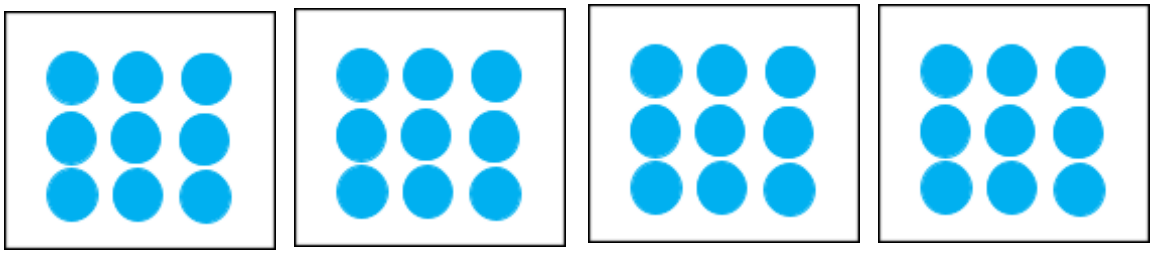


B.



C.

D.



Part D:

Complete as many equations as you can in 1 minute.

4 x 9 = 36	9 x 5 = 40	18 ÷ 3 = 6
28 ÷ 7 = 4	30 ÷ 10 = 3	10 x 2 = 20
3 x 9 = 27	5 x 2 = 10	32 ÷ 8 = 4
2 x 8 = 16	7 x 5 = 35	4 x 6 = 24
6 x 5 = 30	27 ÷ 9 = 3	18 ÷ 2 = 9
28 ÷ 7 = 4	3 x 4 = 12	12 ÷ 2 = 6
25 ÷ 5 = 5	4 x 4 = 16	3 x 5 = 15
2 x 8 = 16	50 ÷ 10 = 5	7 x 2 = 14

15.

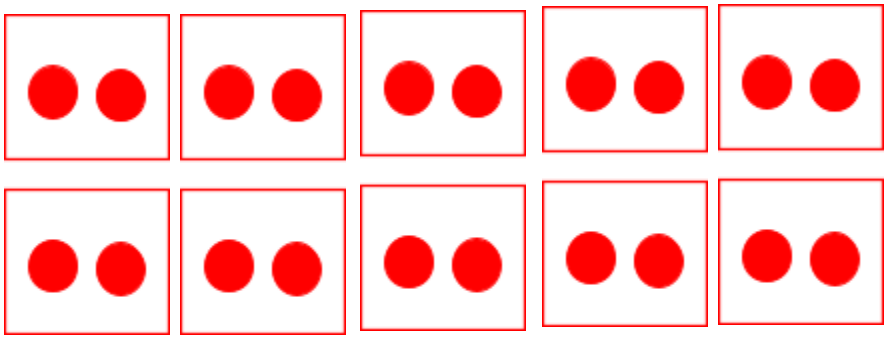
Part E:

Solve the following word problems. Show complete illustrations and solutions.

16. George wants to equally put 27 apples in 9 stacks. How many apples should each stack have? Draw an array.

27 ÷ 9 = 3 apples

17. Melissa has 10 containers. She puts 2 buttons in each container. How many buttons does she have? Draw equal groups.



10 x 2 = 20 buttons

18. Jack has 7 groups of 5 candies. Jill has 5 bags containing 7 candies each. How many candies does Jack have? Does Jill have? Draw the two possible tape diagrams. What property is evident in the situation?

7 x 5 = 5 x 7 = 20. Jack has 20 candies and Jill also has 20 candies.

The commutative property is applied.