Name: _____

Unit 5 Test

Test: Tuesday, January 28

Topics on test:

- Expressions vs. Equations
- Written and numerical expressions
- Word problems matching an equation/expression
- Finding the value of a variable
- Identifying and describing patterns
- Extend patterns
- Function tables (finding rule, completing tables)

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1) Write your own definition of an <u>expression</u> and provide an example: _____
_____

2) Write your own definition of an <u>equation</u> and provide an example: _____
_____

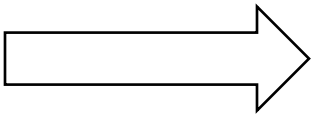
3) *Write the numerical expression that goes with the written expression:*

- 36 plus a number results in 48. _____
- Ten less than a number. _____
- Five times a number divided by 3. _____
- A number multiplied by 9, plus 6, equals 24. _____

4) *Write an equation or expression to match the word problem.*

- Daniel offered to make 48 cupcakes for a work party. He plans to bake 12 cupcakes in each pan. Write an expression (with the variable) to match the word problem. _____

- Nikki had 18 fiction books, then she went to a yard sale and bought some more. Now she has 36 fiction books. Write an equation (with a variable) to match the word problem. _____



- Freddy had $15 to go to CVS. He bought some candy and a magazine and has $7 left. Write an equation (with a variable) to match the word problem.

  _____

5) Find the value of Q: 2Q – 3 = 15

6) Find the value of T: (32 + 6) – T = 30

7) Draw a **repeating <u>numerical</u>** pattern in the space below:

8) Draw a **growing <u>geometric</u>** pattern in the space below:

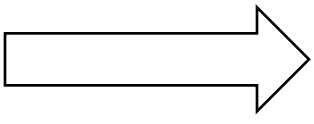
9) Draw a **shrinking <u>numerical</u>** pattern in the space below:

10) If the increasing (growing) pattern continues, what is the <u>eighth</u> number in the pattern? 1, 5, 10, 16, 23, 31, ___, ___

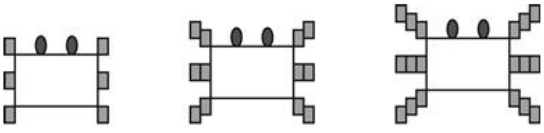
11) Describe the rule for the sequence: 0, 7, 14, 21, 28 _____

12) Oliver is counting colonies of bacteria for his biology class. The number of colonies triples every two days. If there are 47 colonies on Monday, how many colonies should there be at the same time on <u>Friday</u>?

a. 1,269 colonies
b. 141 colonies
c. 423 colonies
d. 188 colonies



Sid is working on a bug design pattern for the logo of a pest control company. The first design has a rectangular body and 6 legs shaped like rectangles. In each new design, the number of rectangles of the legs increases, as shown.



Design 1 Design 2 Design 3

13) **If the pattern continues, what is the total number of rectangles needed to make the legs in Design 5?**

14)

X (input)	Y (output)
3	9
4	12
5	15

Rule: _____

15) Complete the function table if the rule is 2E – 1:

E (input)	Y (output)
10	19
	29
25	
30	

16) Nick is paid $6.00 per hour, and last week he earned $150. What does the x represent in the equation 6x=150?

a. The number of hours Nick worked last week
b. The number of days Nicked worked last week
c. The number of days Nick worked last month
d. The number of hours Nick worked yesterday