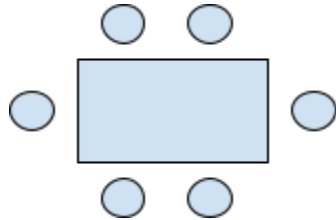


Patterns Test Review

Please make sure you know the following:

1. How to extend increasing and decreasing patterns
 - a. Extend the pattern: 2,4,6,8...
 - b. Extend the pattern: 21,18,15,12...
2. How to write a pattern rule for any given pattern
 - a. The formula for pattern rules is ALWAYS: "Start at ____, add/subtract/multiply/divide ____ each time." (ie. The pattern rule for 2,4,6,8... would be "Start at **2**, **add 2** each time."
3. How to use a diagram to discover a pattern rule



- a. This rectangular table can fit two chairs on each side, and one chair on each end. How many chairs would be needed for 5 tables pushed together? What is the pattern rule for the number of chairs?
4. How to use a t-chart to discover a pattern rule
 - a.

Number of Cats	Number of legs
1	4
2	8
3	12
4	16
5	20

5. How to write an **expression** using a **variable** from a given set of information.
 - a. Write an expression for: 15 more than a number (Answer: $n + 15$)
 - b. Write an expression for: 7 less than a number (Answer: $p - 7$)
 - c. Write an expression for: double a number (Answer: $2r$)
6. How to write a word problem from an **equation** using a variable*.
 - a. $10 + w = 14$

- i. Bobby has 10 crackers. Susie has some crackers too. Together they have 14 crackers. How many crackers does Susie have?
 - b. $11 - c = 6$
 - i. Larry has \$11 and then he buys a bag of Swedish Berries. Now he has \$6 leftover. How much money did the Swedish Berries cost?
7. How to solve an equation with a variable
- a. $6 + h = 12$
 - i. $h = 12 - 6$
 - ii. $h = 6$
 - b. $77 - t = 55$
 - i. $t = 77 - 55$
 - ii. $t = 22$
8. What all of the bolded words mean!
- a. Variable: A letter or symbol that represents a number.
 - b. Expression: A phrase that uses operations with numbers and variables.
 - c. Equation: A mathematical sentence in which the value on the left side is the same as the value on the right side of the equals sign (=)

*Note: When writing a word problem for an equation, don't forget to go through the FOUR steps so you don't forget anything!

$$\begin{array}{c}
 4 \\
 \downarrow \\
 8 + \mathbf{f} = 16 \\
 \begin{array}{ccc}
 \uparrow & \uparrow & \uparrow \\
 1 & 2 & 3
 \end{array}
 \end{array}$$

Start at the left and move right, including each part in your word problem. Then go back to the unknown variable, and that is what your question should be asking! Don't forget about the word "some" when writing about your variable!

- (1) Bob has 8 crayons. (2) He goes to the store to buy *some* more. (3) Bob now has 16 crayons. (4) How many crayons did Bob buy at the store?