

Math Happening Project #3

Name: _____ Student ID #: _____ Class: _____

The Number Pyramid Problem

Prewrite:

1. **Read** over the problem. **Do not write solve anything**, or take notes, just read the question. Then come back and answer the following questions before you begin solving the problem.
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2. List 3 math vocabulary terms that should be used in your answers. These words should be directly related to Algebra I material.

a.	b.	c.

3. What are two math concepts that you have **recently** learned about that will help you solve this problem?

a.	b.

4. Write a quick description of your first two steps you will do to solve this problem.

a.

b.

The Number Pyramid Problem

A number pattern is shown below.

Row 2		8	10			
Row 3		15	17	19		
Row 4		24	26	28	30	
Row 5		35	37	39	41	43

- A. What is the difference between the last number in Row 6 and the first number in Row 6? Show or Explain your work.

Difference: _____

- B. Write an equation that can be used to find d , the difference between the last number and the first number, for any row r . Show or explain your work.

$d =$ _____

C. What is the first number in row 11? What is the last number in row 11? Show or explain your work.

First Number: _____ Last Number: _____

D. What is the number in Row 1? Show or explain your work.

Row 1: _____

Reflection:

Pick one of the math concepts you listed in the pre-write. What is one of the most common mistakes students make in this situation? Why do they make the mistake? What suggestion would you give to future students in order to avoid the mistake? Please write at least 4-5 complete sentences.

The Rain Barrel Problem

Prewrite:

1. **Read** over the problem. **Do not write solve anything**, or take notes, just read the question. Then come back and answer the following questions before you begin solving the problem.
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2. List 3 math vocabulary terms that should be used in your answers. These words should be directly related to Algebra I material.

a.	b.	c.
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3. What are two math concepts that you have **recently** learned about that will help you solve this problem?

a.	b.
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4. Write a quick description of your first two steps you will do to solve this problem.

a.

b.

The Rain Barrel Problem

A rain barrel is full of water and used to water a garden. The rain barrel loses water at the rate of 2.5 gallons of water per minute. After seven minutes, the rain barrel contains 37.5 gallons.

A. How many gallons of water were initially in the rain barrel? Show or explain your work.

_____ gallons

B. Write an equation in point – slope form to model the number of gallons (y) of water in the rain barrel after (x) minutes. Show or Explain your work.

point-slope equation: _____

- C. If the Rain Barrel was full of water, how many minutes does it take for the rain barrel to drain so it contains 25 gallons of water? Show or explain your work.

_____ minutes

- D. What is the total number of minutes it will take to completely empty the rain barrel? Show or Explain your work.

_____ minutes

Reflection:

Pick one of the math concepts you listed in the pre-write. What is one of the most common mistakes students make in this situation? Why do they make the mistake? What suggestion would you give to future students in order to avoid the mistake? Please write at least 4-5 complete sentences.