


Assignment Self-Monitoring Sheet

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: <u>9/4</u> Topic: _____	0 1 2	NO SCHOOL LABOR DAY
Tuesday Date: <u>9/5</u> Topic: <u>Pattern Task</u>	0 1 <u>2</u>	Example Comment: "I was able to describe the how the figures were growing"
Wednesday Date: <u>9/6</u> Topic: <u>No Homework - Pre Assessment Yesterday!</u>	0 1 2	
Thursday Date: <u>9/7</u> Topic: <u>Evaluating Functions WS</u>	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

Level 2

$$14) h(x) = 2x - 1$$

$$h\left(\frac{2}{5}\right) = 2\left(\frac{2}{5}\right) - 1$$

$$h\left(\frac{2}{5}\right) = \frac{2}{1}\left(\frac{2}{5}\right) - 1$$

$$h\left(\frac{2}{5}\right) = \frac{4}{5} - \frac{1}{5} = \left(\frac{-1}{5}\right)$$

Level 2, #28

$$f(n) = 4n + 5$$

$$f(2n) = 4(2n) + 5$$

$$f(2n) = 8n + 5$$

Level 3, #23

$$K(n) = n^2 - 2$$

$$K(-4n) = (-4n)^2 - 2$$

$$K(-4n) = 16n^2 - 2$$

Level 3, #23

$$h(n) = n^2 - 2 \quad h(-4n)$$

$$h(-4n) = (-4n)^2 - 2$$

$$h(-4n) = 16n^2 - 2$$

Level 3, #10

$$g(t) = -t^2 - 2t$$

$$g(7) = -(\cancel{7})^2 - 2(\cancel{7})$$

$$g(7) = -49 - 14$$

$$g(7) = -63$$

Level 3, #33

$$\begin{array}{l} 33) \quad h(n) = -3n^3 + 1 \\ h(b+2) = -3(\overbrace{b+2}^3) + 1 \\ h(b+2) = -3(b+2)(b^2+4b+4) + 1 \end{array} \quad \begin{array}{l} (b+2)^2 \\ (b+2)(b+2) \\ \hline b^2+4b+4 \end{array}$$

Keep going!

$$33) \quad -3b^3 - 18b^2 - 36b - 23$$

1st Hour	8:05 – 8:48
2nd Hour	8:53 – 9:36
<i>Advisory</i>	9:41 – 10:23
3rd Hour	10:28 – 11:11
4th Hour	11:16 – 11:59
5th Hour	12:04 – 1:24
Lunch A	12:04 – 12:34
Class A	12:39 – 1:24
Class B	12:04 – 12:49
Lunch B	12:54 – 1:24
6th Hour	1:29 – 2:12
7th Hour	2:17 – 3:00

Class Plan:

1. Warm-up
2. Investigation: Stacking Cups
3. 5 Representations of a function

Warm-up:

How many cups tall is Mr. Ehlke?



Investigation: Stacking Cups

5 Representations of a Function

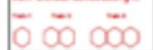
Language

- A linear relationship with a y-intercept of (0,2) and a slope of 4.
- This linear relationship passes through the points (-1, -2) and (4, 18).
- This quadratic relationship has a minimum at (0, 1) with no x-intercept.

Context

“Long country has 11. The plan to use 17 each week. Is long country weeks will be have enough money to buy a 540 tree?”

For the pattern shown below, compute the perimeter for the first four terms, determine the perimeter for the tenth term without constructing it.

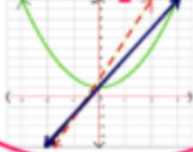


Table

x	f(x)	x	Perimeter
0	1	1	6
1	4	2	10
2	7	3	14
3	10	4	18

Can you connect each Graph, Equation, Table, Context and Language?

Graph



Equation

$$y = 3x + 1 \quad -3x + y = 1$$

$$f(x) = x^2 + 1 \quad P = 4n + 2$$

$$x = \sqrt{y-1} \quad P = 2(2n + 1)$$

Research has shown... Strengthening the ability to move between and among these representations improves the growth of a student's concepts. —Leif, Peter & Behr

Investigation: Stacking Cups

"How many will it take to reach the top of the teacher's head?"

1. At the top of your page - Estimate the height by "eyeballing".
2. Create a table, equation, graph, and contextual/math descriptions
3. Conclude (backside)



Estimate at the top!

Estimate =

Cups - Five Forms of a Function

Name _____ Hr _____

Table

Number of Cups	Height

Graph

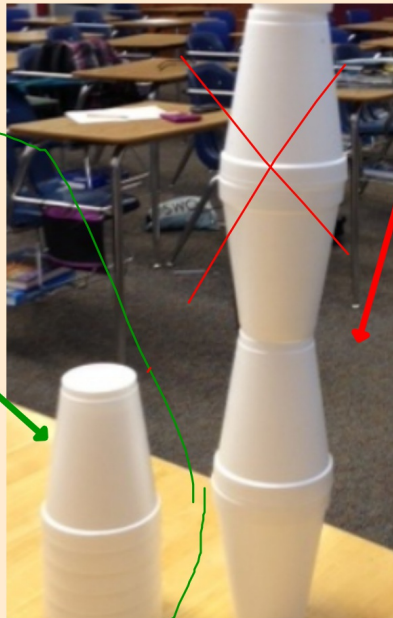
Description of Story (Context)

Description (Math Language)

Equation

Define "stack"

Stack like
this!



DO NOT
stack like
this

Investigation: Stacking Cups

*Look at Mr. Ehke next to 5 cups... how many will it take to reach the top of his head?

Estimates

85 cups 203 cups 113
100 cups
58 cups 112 656 40
147 555

Investigation: Stacking Cups

*Look at Mr. Ehke next to 5 cups... how many will it take to reach the top of his head?

Estimates

95

75

500

80

150

110

1,000

250

Investigation: Stacking Cups

*Look at Mr. Ehke next to 5 cups... how many will it take to reach the top of his head?

Estimates

40

80

75

140

200

78

138

Investigation: Stacking Cups

*Look at Mr. Ehke next to 5 cups... how many will it take to reach the top of his head?

Estimates

140 75 95
105 120 100 200
250 510 150

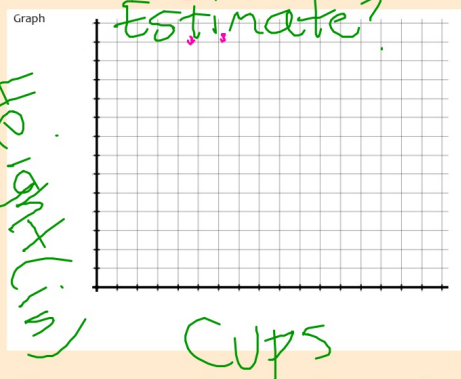
Investigation: Stacking Cups

Do: Investigation given ONLY 5 cups...find the pattern. After investigating, write a conclusion on the backside... how many cups?!

Mr. Ehlke's Height: ~71 inches/~181 cm

Table

Number of Cups	Height



Equation

Description of Story (Context)

Description (Math Language)



Done? Call over teacher to see! :)

Investigation: Stacking Cups

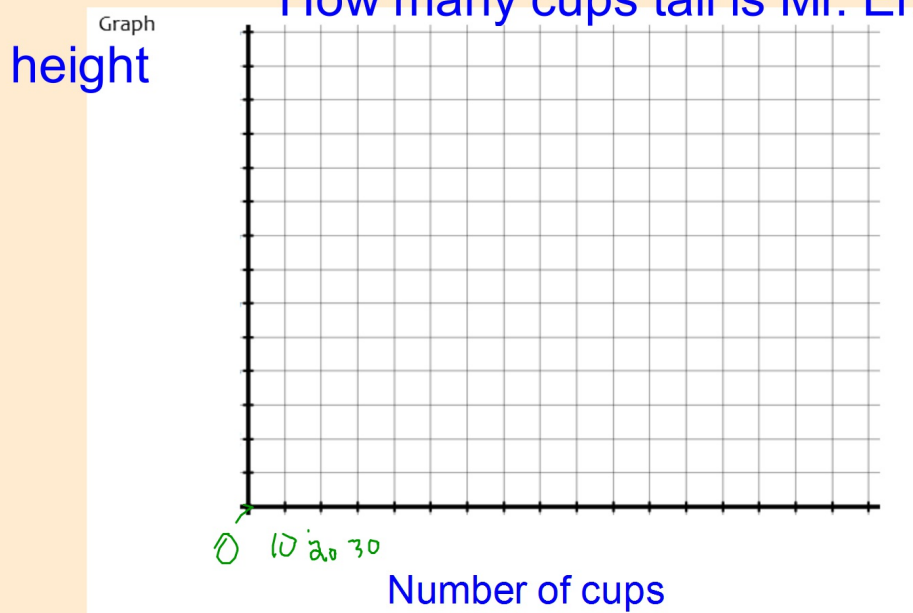
Table

Number of Cups	Height
0	
1	
2	
3	
4	
5	
?	Mr. Ehlke's height

Investigation: Stacking Cups

Goal: Fit prediction on the graph...

How many cups tall is Mr. Ehlke?



Investigation: Stacking Cups

Description of Story (Context)

As the cups stack higher,

Description (Math Language)

rate change growing
Starting height

Investigation: Stacking Cups

Equation

Exercises: Return bins to table

Analysis (on back of investigation)

Record and respond to each...

1) In conclusion, my estimate was _____ **cups**, but my conclusion was _____ **cups**.

2) How could your work be improved?

Exercises: Return bins to table

Analysis (on back of investigation)

Record and respond to each...

1) What is the pattern? (As you add one cup, how does the height change?)

2) As you investigate, how confident are in your estimate?

(How does accuracy in measuring affect your answer?)

3) How could your work be improved?

Investigation: Stacking Cups

Assess the productivity of our group.

Cups Investigation Group Assessment

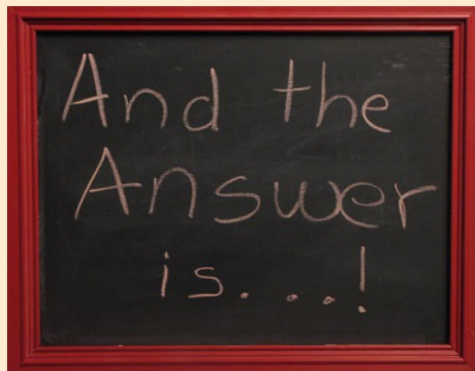
Names _____

1) Rate your group's productivity in the investigation: (1 = low, 5 = productive!) _____

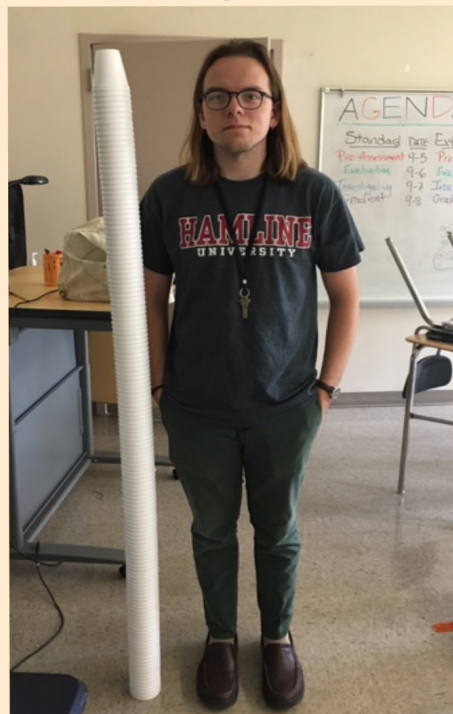
2) Comment on what worked well during your group work:

3) How could the group experience be improved?

Mr. Elhke in terms of cups :)



about 141 cups!



Standard	Date	Exh
Pre-Assignment	4-5	Pre
Evaluation	9-6	Exh
Recap/Assignment	9-7	Pre
Final	9-8	Exh

Exercises... Record on back of investigation or notebook.

Look back at your estimate (hypothesis)

- 1) Compare accuracy between your estimate and conclusion.
- 2) What helped you find an accurate answer?
- 3) How could your work be improved?