

1st Quarter Performance Assessment

"Create your own Word Problems"

Assigned Date: October 5, 2016

Due Date: October 21, 2016

What is the value of this Performance Assessment project? It is worth 20% of your 1st quarter grade. To receive full credit, you must complete **All** of the following criteria of this project.

Project must contain:

1. You must create 4 different word problems that meet the requirements of the rubric on the back of this sheet. The types of word problems are listed below. Use the internet, your math textbooks, and your interactive notebook to help you.

Types of Word Problems
Consecutive Word Problems
Perimeter Problems
Number Problems
Age Word Problem
Motion Word Problems
Coin Word Problems

2. Show how you correctly solve your word problem by translating the words of your problem to math (an equation). This can be shown in a number of ways including color-coding, half English half math "sentences", or writing the math beneath the words in the problem. Anything that shows how you get the math from the words and is effective (works) is fine.

3. Solve your problem. You must show all of the work that got you to the solution.

- Visual - by a diagram, a chart, or a let statement
- Equation - write an equation that would be used to solve the problem
- Solution - show work for solving the equation
- Answer - your answer must be in sentence form.

4. Attach all of this to a "small" poster - clearly, neatly, creatively and thoughtfully. Check out Pinterest for ideas or ask your math teacher for ideas. Here is an example of what the project should look like, I did it on PowerPoint. If you would like to print your project, save it to a memory stick and come see during lunch to print to the color printer.

"Create your own Word Problems"

1) The length of a rectangle is 3 times the width. If the length is decreased by 4 cm and the width is increased by 1 cm, the perimeter will be 66 cm. Find the dimensions of the original rectangle.

Equation: $66 = 2(3x - 4) + 2(x + 1)$

original length = 3 times the width $3x$	Perimeter = 2(new length) + 2(new width) $66 = 2(3x - 4) + 2(x + 1)$ $66 = 6x - 8 + 2x + 2$ $66 = 8x - 6$ $+6 \quad +6$ $72 = 8x$ $8 \quad 8$ $x = 9$	Check: $66 = 2(3x - 4) + 2(x + 1)$ $66 = 2(27 - 4) + 2(9 + 1)$ $66 = 2(23) + 2(10)$ $66 = 46 + 22$ $66 = 66$
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New P = 66 cm
 $3x - 4$
width = $x + 1$
Dimensions of the original rectangle:
width = $x = 9$ cm
length = $3x = 3(9) = 27$ cm

Answer: The width of the original rectangle is 9 cm and the length is 27 cm.

2) Bicyclists Allison and Peter started at noon from points 95 km apart and rode toward each other, meeting at 2:30 PM. Peter's speed was 4 km/hr greater than Allison's speed. Find their speed.

	Rate	Time	= Distance
Allison	x	2.5	$= 2.5x$
Peter	$x + 4$	2.5	$= 2.5(x + 4)$

95 km

Equation: $2.5x + 2.5(x + 4) = 95$
 $2.5x + 2.5x + 10 = 95$
 $5x + 10 = 95$
 $-10 \quad -10$
 $5x = 85$
 $5 \quad 5$
 $x = 17$

Check:
 $2.5x + 2.5(x + 4) = 95$
 $2.5(17) + 2.5(21) = 95$
 $42.5 + 52.5 = 95$
 $95 = 95$

Answer: Allison's speed is 17 Km/hr and Peter's speed is 21 Km/hr.

3. Alex has \$320 in his piggy bank made up of nickels, dimes, and quarters. There are 3 times as many quarters as nickels, and 5 more dimes than nickels. How many coins of each kind are there?

Type of coin	Value of each coin in cents	# of Coins	Total value in cents
Nickels	5	x	$= 5(x)$
Dimes	10	$x + 5$	$= 10(x + 5)$
Quarters	25	$3x$	$= 25(3x)$

Equation: $5x + 10(x + 5) + 25(3x) = 320$
 $5x + 10x + 50 + 75x = 320$
 $90x + 50 = 320$
 $-50 \quad -50$
 $90x = 270$
 $90 \quad 90$
 $x = 3$

Check:
 $5x + 10(x + 5) + 25(3x) = 320$
 $5(3) + 10(8) + 25(9) = 320$
 $15 + 80 + 225 = 320$
 $320 = 320$

Answer: Alex has 3 nickels, 8 dimes, and 9 quarters.

4) A man is 40 years old and his son is 8 years old. In how many years will the man be 3 times as old as his son will be then?

	Present Age	After Age
son	8	$8 + x$
man	40	$40 + x$

Equation: $3(8 + x) = 40 + x$
 $24 + 3x = 40 + x$
 $-24 \quad -24$
 $3x = 16$
 $3 \quad 3$
 $x = 8$

Check:
 $3(8 + x) = 40 + x$
 $3(8 + 8) = 40 + 8$
 $3(16) = 48$
 $48 = 48$

Answer: In 8 years the man will be 3 times as old as his son will be then.

No School Grading Rubric

4 different word problems from:	1	2	3	4
Problem #1 <ul style="list-style-type: none"> • Consecutive • Perimeter • Number Problems • Age • Motion • Coin Word 	<ul style="list-style-type: none"> •Some error in Diagram, chart, or let statement is shown •Some error in Equation. (Perimeter problem must including formula) •Major error calculations •Answer is not sentence form. • A check is not included. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error calculations •Answer is not sentence form. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error in calculations •Answer is in sentence form. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Calculations were correct •Answer is in sentence form. • A check is shown.
Problem #2 <ul style="list-style-type: none"> • Consecutive • Perimeter • Number Problems • Age • Motion • Coin Word 	<ul style="list-style-type: none"> •Some error in Diagram, chart, or let statement is shown •Some error in Equation. (Perimeter problem must including formula) •Major error calculations •Answer is not sentence form. • A check is not included. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error calculations •Answer is not sentence form. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error in calculations •Answer is in sentence form. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Calculations were correct •Answer is in sentence form. • A check is shown.
Problem #3 <ul style="list-style-type: none"> • Consecutive • Perimeter • Number Problems • Age • Motion • Coin Word 	<ul style="list-style-type: none"> •Some error in Diagram, chart, or let statement is shown •Some error in Equation. (Perimeter problem must including formula) •Major error calculations •Answer is not sentence form. • A check is not included. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error calculations •Answer is not sentence form. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error in calculations •Answer is in sentence form. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Calculations were correct •Answer is in sentence form. • A check is shown.
Problem #4 <ul style="list-style-type: none"> • Consecutive • Perimeter • Number Problems • Age • Motion • Coin Word 	<ul style="list-style-type: none"> •Some error in Diagram, chart, or let statement is shown •Some error in Equation. (Perimeter problem must including formula) •Major error calculations •Answer is not sentence form. • A check is not included. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error calculations •Answer is not sentence form. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Some error in calculations •Answer is in sentence form. • A check is shown. • A check is shown. 	<ul style="list-style-type: none"> •Diagram, chart, or let statement is shown •Equation is written and correct. (Perimeter problem must including formula) •Calculations were correct •Answer is in sentence form. • A check is shown.
Overall Project Presentation	<ul style="list-style-type: none"> •Showed little effort •Is not on a poster. 	<ul style="list-style-type: none"> •Good •Is on a poster including all required parts. 	<ul style="list-style-type: none"> •Great •Poster is neat, clear and well presented. 	<ul style="list-style-type: none"> •Excellent • All parts of project are done to completion with an excellent degree of effort and clear thought process.