MID-YEAR REVIEW

The Mid-Year Assessment is scheduled for _____. Use this review to help you prepare for this assessment. Study the following vocabulary.

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<u>VOCABULARY</u>: **Sum, Difference, Product, Quotient, Repeating Decimal, Terminating Decimal, Dividend, Divisor, Power of 10, Numerical Expression, Algebraic Expression, Simplify, Evaluate, Translate, Distributive Property, Coefficient, Constant, Variable, Term, Exponent, Base, Factor, GCF, Unit Cube, Cube, Rectangular Prism, Volume**

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DIRECTIONS: <u>FIRST</u> FILL IN THE THINK BOXES TO HELP YOU BEGIN THINKING ABOUT EACH PROBLEM. <u>THEN</u>, ANSWER THE FOLLOWING QUESTIONS REFERRING TO YOUR CLASS NOTES, IF NEEDED.

PART 1: DECIMALS

1. Round the following numbers to the given place value.
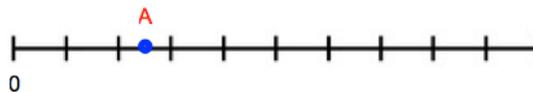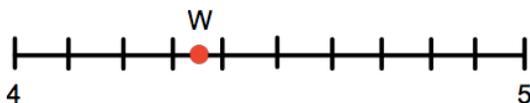
    a) 67.83; tenths

    b) 123.9872; hundredths

2. Write the following decimals.

    a) eighty-one thousandths _____

    b) twenty and five hundredths _____

> ### Think Box:
>
> *What is the rule for rounding up?*
>
> *What is the rule for rounding down?*
>
> *What happens to the digits to the right of the place value you are rounding to is to the right of the decimal point?*

3. Label the tick marks. Determine the decimal value of each of the following points.

4. Samantha ordered 61 picture frames for her business. The frames are mailed in boxes that can each hold 7 frames. What is the least number of boxes that can be used to mail Samantha's picture frames?

5. Perform the following operations. Estimate, then find the exact answer. SHOW WORK.

a) 73.56 + 124.2   Estimate:_____

b)   12 – 7.89   Estimate:_____

c) 7.4 × 4.32   Estimate:_____

d)   82.03 ÷ 1.3   Estimate:_____

6. Write $\dfrac{8}{11}$ as a decimal.

PART II: POWERS OF 10

1. Write the following numbers using an exponent.

    a) 10,000 _____

    b) 100   _____

2. Write these powers of 10 in standard notation.

    a) 10^5 _____

    b) 10^8 _____

3. Find the product or quotient,

    a) 5.6 × 1000 _____

    b) $\dfrac{40}{100}$ _____

> **Think Box:**
>
> *What is meant by standard notation?*
>
> *Explain the rule for multiplying by a power of 10.*
>
> *Explain the rule for dividing by a power of 10.*

PART III: DECIMAL APPLICATIONS

1. EVALUATE THE FOLLOWING NUMERICAL EXPRESSIONS USING THE ORDER OF OPERATIONS. USE THE FUNNEL METHOD.

    a. $18 - 3(2 + 3) \div 5$

    b. $3(17 - 14 + 6 \times 2)$

    c. $(2^5 - 2 \times 10)^2$

    d. $4(5) + 3^2 - 1$

> **Think Box:**
>
> *What is the order of operations? (What is different about the MD and the AS?)*
>
> *What do you need to do when there is more than one operation inside the parentheses?*
>
> *What operation is indicated in the expression 6(3)?*

e $4(8 + 16 \div 4^2)$

f. $20 - (10 + 2.67)$

2. Write an algebraic expression for each word phrase below.

a. The quotient of a five and a number

b. A number less than two hundred sixty

c. Half of a number

d. A number tripled plus a number doubled

e. The sum of a number and sixteen thousandths

f. The difference between a number and two

g. The product of a number and two-tenths

h. a number cubed

i. a number squared

3. Translate the following word problems to expressions.

a. On Martin Luther King Day, Sam went snow boarding. He went down the mountain 14 times, while his older brother went down 18 times that day. Write a numerical expression to represent the different between the two amounts of trips down.

b. Scarlett loves to eat blueberries. She once picked 350 blueberries at a farm and divided them up equally into c cartons to give away. Write an expression to represent the amount of blueberries Scarlett puts in each carton.

Define the variable:

Write the Expression:

4. Solve the word problem below. Show all thinking.

There are 95 sixth graders and 110 seventh graders. Mr. Math wants to divide both grades into identical groups of equal size with the greatest possible number of students in each group. How many students should be in each group? How many groups of sixth graders will there be? How many groups of seventh graders.

There are _____ students in each group with _____ groups of sixth graders and _____ groups of seventh graders.

5. A pack of gum of costs $0.95. Use mental math and the distributive property to show the total cost of 5 packs.

6. Factor the following expression. Rewrite the following expression as a product using the distributive property and the GCF.
   a.   200 + 100

7. Use the distributive property to simplify the following expression.

$$9(5 - 4)$$

PART IV: NUMBER THEORY

1. Use divisibility to determine if the following numbers are divisible by 2, 3, 4, 5, 6, 7, 8, 9 and/or 10.
    a) 102   b) 567

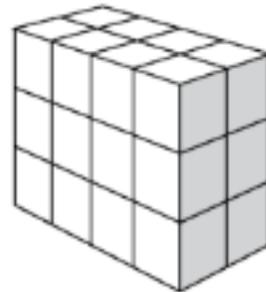2. Determine the GCF of 48 and 96.

PART V: VOLUME

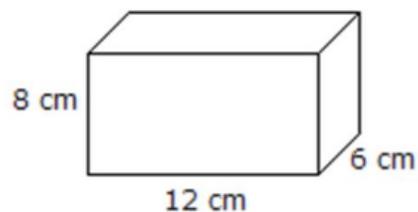1. Find the volume of the prism below.

9.4m

3.0m

4.1m
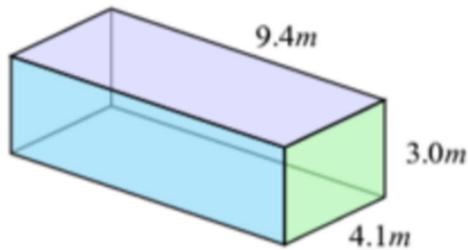
2. Find the volume of the rectangular prism below that is made of small cubes with an edge length of 0.25 in.

Hint: Draw a cube with an edge of 0.25 in. below.

Sentence_____

3. Small cubes with an edge length of 0.5 cm are packed inside the box shown below. How many cubes fit inside the box when it is completely full?

8 cm

6 cm

12 cm

THINK BOX

Draw a picture of the small cube with an edge of 0.5 cm.

Sentence_____