

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

March 30 - April 3, 2020

Course: Algebra I

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Weekly Plan:

Monday, March 30

- Chapter One, Extra Practice: Skills, page 639:Problems 3-45, mod 3
- Chapter One, Problem Solving, page 665 (1-7) #1-5 odd

Tuesday, March 31

- Chapter One, Extra Practice: Skills, page 640: Problems 48-72, mod 3
- Chapter One, Problem Solving, page 665 (1-7)#2-6 even

Wednesday, April 1

- Chapter Two, Extra Practice: Skills, page 641:Problems 3-60, mod 3
- Chapter 2 Problem Solving, pages 665 (2-3) “Solve” #2-5

Thursday, April 2

- Chapter Two, Extra Practice: Skills, pages 642-643:Problems 63-129, mod 3
- Chapter 2 Problem Solving, page 666 (2-4) “Solve” #3-6

Friday, April 3

- Chapter Three, Extra Practice: Skills, page 643:Problems 3-51, mod 3
- Chapter 3 Problem Solving, page 668-667 (3-1 and 3-2) “Solve” evens for both sections

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

For all review assignments

If you're having difficulty remembering how to do the problems, **the lesson in which they were taught is posted in red brackets on the right side of the page.** Turn back to that lesson and review it for help (if you have the textbook / I have also attached highlights of the chapter below). If you have reviewed the lesson and still don't understand, continue on to the next problem, until you have tried to work each one. Use lined loose-leaf paper and show all of your work and make sure to include a heading for each assignment. If you need to double check your work (for challenging problems) look at the answer key that is provided, and check all of your answers once you have finished the entire assignment. As always, feel free to email me during the schooldays with questions.

Monday, March 30

Things to remember from Section 1-1 to 1-4

A **variable** is a symbol used to represent a quantity in algebra.

A **variable expression** is a mathematical expression that contains a variable.

A **numerical expression** only uses numbers and ultimately names a particular value.

Evaluation is the process used to find the value of a mathematical expression.

Replacing a numerical expression with its simplified name/value is called **simplifying the expression.**

Order of Operations GEMDAS - (G)rouping, (E)xponents, [(M)ultiplication and (D)ivision] from left to right, [(A)ddition and (S)ubtraction] from left to right

Grouping symbols- a device used to enclose an expression that should be simplified first

They include - parentheses (), brackets [], braces { }, and fraction bars If they are embedded we see $\{[()]\}$

Keywords for operations when translating words into symbols

Addition - sum, increased by, more than

Subtraction - difference, decreased by, less than, minus

Multiplication - times, product of, of

Division - quotient, divided by

Tuesday, March 31

Things to remember from Section 1-5 to 1- 8

Plan for solving word problems

1. Read the problem carefully, find the unknowns and make a sketch if necessary. Come up with a declarative answer statement.
2. Choose a variable to represent the unknown
3. Reread the problem and write an equation with the variable
4. Solve the equation to find the unknown
5. Check your answer and state the answer with the declarative statement

Wednesday, April 1

Things to remember from Section 2-1 to 2-5

Closure Properties

For all real numbers a and :

$a + b$ is a unique real number.

ab is a unique real number.

Commutative Properties

For all real numbers a and b :

$$a + b = b + a$$

$$ab = ba$$

Associative Properties

For all real numbers a , b and c :

$$(a + b) + c = a + (b + c)$$

$$(ab)c = a(bc)$$

Properties of Equality

For all real numbers a , b and c :

Reflexive Property $a = a$

Symmetric Property If $a = b$, then $b = a$.

Transitive Property If $a = b$ and $b = c$, then $a = c$.

Identity Property of Addition

There is a unique real number 0 such that for every real number a .

$$a + 0 = a \text{ and } 0 + a = a.$$

Property of Opposites

For every real number a there is a unique real number $-a$ such that

$$a + (-a) = 0 \text{ and } (-a) + a = 0.$$

Property of Opposite of a Sum

For all real numbers a and b :

$$-(a + b) = (-a) + (-b)$$

The opposite of a sum of real numbers is equal to the sum of the opposites of the numbers.

1. If a and b are both positive, then (same sign sum, sign stays the same)

$$a + b = |a| + |b|$$

2. If a and b are both negative, then (same sign sum, sign stays the same)

$$a + b = -(|a| + |b|)$$

3. If a is positive and b is negative and a has the greater absolute value, then
(different sign difference, number with greater absolute value determines the sign of the answer)

$$a + b = |a| - |b|$$

Definition of subtraction:

For all real numbers a and b , the difference is defined by

For all real numbers a and b , the difference $a - b$ is defined by

$$a - b = a + (-b)$$

Distributive property (of multiplication with respect to addition)

For all real numbers a , b and c :

$$a(b + c) = ab + ac \quad \text{and} \quad (b + c)a = ba + ca$$

Distributive property (of multiplication with respect to subtraction)

For all real numbers a , b and c :

$$a(b - c) = ab - ac \quad \text{and} \quad (b - c)a = ba - ca$$

Thursday, April 2

Things to remember from Section 2-6 to 2-9

Identity Property of Multiplication

There is a unique real number 1 such that for every real number a ,

$$a \cdot 1 = a \quad \text{and} \quad 1 \cdot a = a$$

Multiplication Property of Zero

For every real number a :

$$a \cdot 0 = 0 \quad \text{and} \quad 0 \cdot a = 0$$

Multiplication Property of -1

For every real number a :

$$a(-1) = -a \quad \text{and} \quad (-1)a = -a$$

Property of Reciprocals

For every nonzero real number a , there is a unique real number $\frac{1}{a}$ such that

$$a \cdot \frac{1}{a} = 1 \quad \text{and} \quad \frac{1}{a} \cdot a = 1$$

Property of the Reciprocal of the Opposite of a Number

For every nonzero number a ,

$$\frac{1}{-a} = -\frac{1}{a}$$

Property of the Reciprocal of a Product

For all nonzero numbers a and b ,

$$\frac{1}{ab} = \frac{1}{a} \cdot \frac{1}{b}$$

Friday, April 3

Things to remember from Section 3-1 to 3-4

Addition Property of Equality

If a , b and c are any real numbers, and $a = b$, then

$$a + c = b + c \quad \text{and} \quad c + a = c + b$$

Subtraction Property of Equality

If a , b and c are any real numbers, and $a = b$, then

$$a - c = b - c \quad \text{and} \quad a + (-c) = b + (-c)$$

Equations having the same solution set over a given domain are called **equivalent equations** over that domain.

Multiplication Property of Equality

If a , b and c are any real numbers, and $a = b$, then

$$ac = bc \quad \text{and} \quad ca = cb$$

If equal numbers are multiplied by the same number, the products are equal.

Division Property of Equality

If a , b are any real numbers, c is any nonzero real number, and $a = b$, then

$$\frac{a}{c} = \frac{b}{c}$$

If equal numbers are divided by the same nonzero number, the quotients are equal.