GreatHearts Irving

Remote Learning Packet

Please submit scans of written work in Google Classroom at the end of the week.

Week 7: May 11-15, 2020

Course: Math Fundamentals

Teacher(s): Ms. Schweizer rose.schweizer@greatheartsirving.org

Weekly Plan:

Monday, May 11
- ☐ Correct Chapter 11 Review and study notes
- ☐ Take Chapter 11 Assessment Part 1 on GC

Tuesday, May 12
- ☐ Take Chapter 11 Assessment Part 2

Wednesday, May 13
- ☐ Read pages 1-4
- ☐ Watch Video on GC
- ☐ Section 1.2 pg. 8 13-29 odd
- ☐ Section 1.4 pg. 14 13-29 odd

Thursday, May 14
- ☐ Read pages 5-6
- ☐ Watch Video on GC
- ☐ Section 2.4 pg. 45 25-30 all
- ☐ Section 2.5 pg. 48 19- 27 all

Friday, May 15
- ☐ Attend office hours
- ☐ Catch-up or review the week's work

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

Monday, May 11

Use 20 minutes to correct your Chapter 11 study guide from last Thursday using the answer key in this week's packet. Go over any questions you missed and study your notes. Email me if you have questions.

After you have studied for 20 minutes, take part 1 of the Chapter 11 Assessment on Google Classroom. It should take about 20 minutes. Make sure you are answering the questions thoroughly and carefully. You may use your book or your notes, but may not ask anyone for help.

If you are not able to take the assessment on Google Classroom, complete the Chapter 11 Assessment Part 1 in this packet.

Tuesday, May 12

Complete the Chapter 11 Assessment Part 2 in this Packet. If possible, please print out the Part 2 and show all your work on that piece of paper. If that is not possible, make sure you are copying down the questions and clearly showing your work.

Wednesday, May 13

Congratulations! We have covered all of the new material for the year! Now we are starting to review material from the entire year, beginning with Chapter 1.
Read Pages 1-4 of the packet and then watch today's video on Google Classroom. Complete the exercises in the book, copying down the original equation and showing each step of the solution. Correct your finished work, trying to fix any mistakes.
When you are completing the exercises, write out which property you use for each problem.

Thursday, May 14

Today we are reviewing how to solve inequalities. Read pages 5-6 of the packet and watch the video on Google Classroom on graphing inequalities. Complete the exercises in the book, copying down the original equation and showing each step of the solution. Correct your finished work, trying to fix any mistakes.

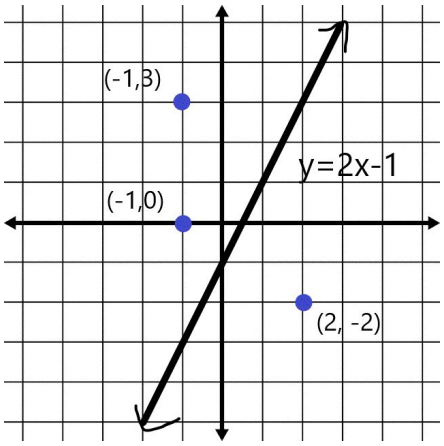
Friday, May 15

Spend the day submitting your work, attending office hours, and finishing up any assignments. Office hours are from 9:30-10:00.

Answer Key

Chapter 11 Review:

1. 12, 12
2. -4, 4
3. 8, 8
4. <
5. >
6. 7
7. -3
8. -8
   subtracting
9. -24
10. -6
11. 2
    adding
12. -24
13. -100
14. 75
15. -48
16. -19
17. 9
    Positive
    Negative
18. y = -5
19. x = -26
20. n= 20
21. 22.



Wednesday:

The answers are in the back of the textbook.

Thursday:

Section 2.4

25. b>45
26. h>92
27. x<72
28. d<39
29. t>14
30. m<41

Section 2.5

19. m>14
20. x<22
21. t<14
22. z>90
23. g<117
24. w>288
25. p=100
26. t=1111
27. c=1

Name_____ Date _____

Chapter 11 Assessment Part 1

1. What is the opposite of 49?

2. What is the absolute value of 49?

3. What is the value of |-71|?

Write <or > in the blank to make a true statement.

4. -16 _____ -17

5. -0.45 ____ 0

6. -13 _____ -10

Simplify each expression. Show all your work.

7. -21-(-4)

8. -54-54

9. -21· -11

10. -153 ÷ 3

11. -222 ÷ -6

Answer each question thoroughly.

12. Explain the difference between whole numbers and integers. Give an example of a number that is both a whole number and an integer. Give an example of a number that is an integer but not a whole number.

13. What is the ordered pair for the origin?

14. Why does multiplication of a positive and a negative number have a negative product?

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Chapter 11 Assessment Part 2

Solve each equation. Show all your work.

1. $-8+(-3\times-15)+11$

2. -6(-2)(-4)

3. $-17y=-102$

4. $w+-9=-23$

5. $\frac{-1}{4}a+5=-45$

6. $-2g+4=2$

7. Show on a number line 8 and the opposite of 8. What is true of the absolute value of both numbers?

8. In Lansing, Michigan the temperature was -8° F at 8 am. The temperature rose 15° F by noon. Then the temperature dropped by 25° F by 8 pm. What was the temperature at 8 pm?

Name_____ Date _____

Graph and label each ordered pair.

9. $(-4,-3)$

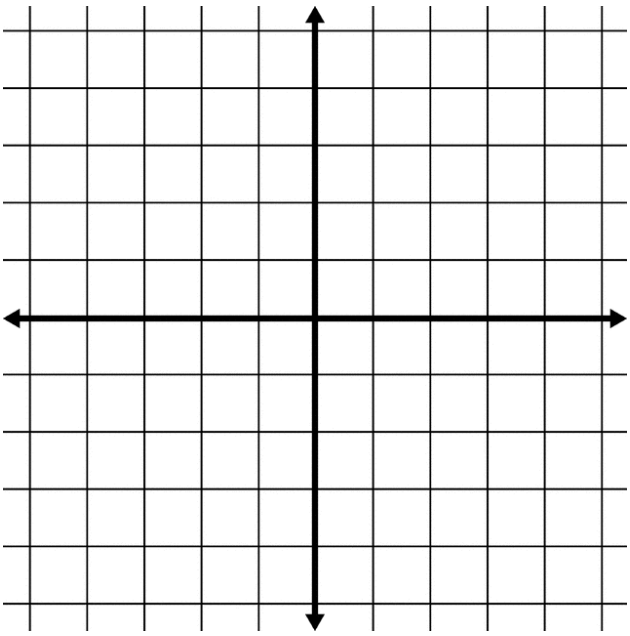
10. $(0,5)$

11. $(-2,1)$

12. $(3,6)$

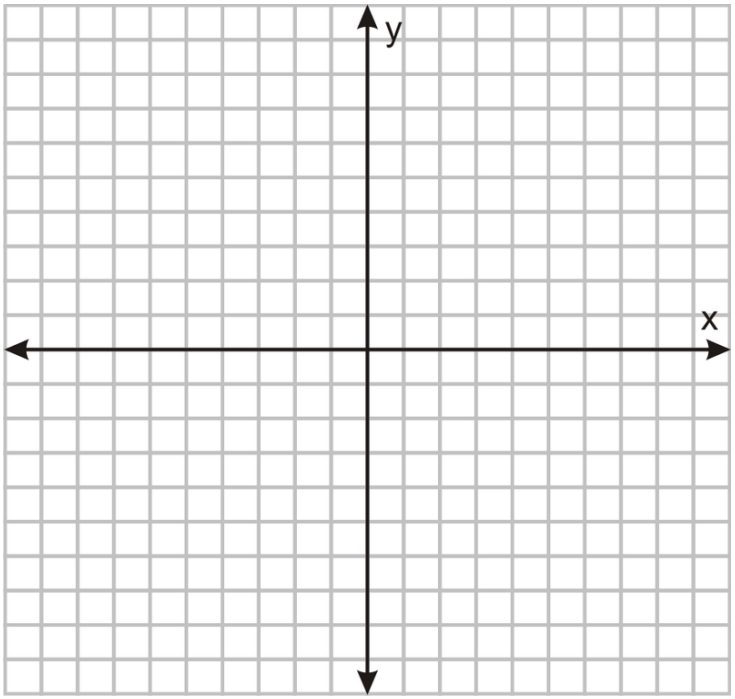
13. $(1,-3)$

14. $(-5,0)$



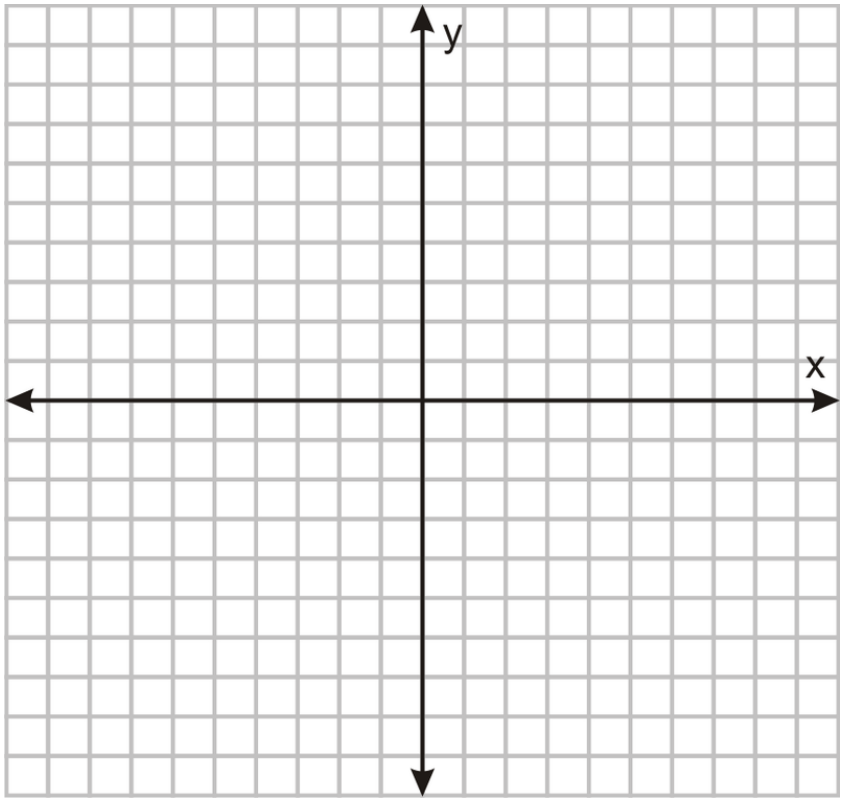
Make a table of values and then graph the given equations. Use at least 5 values for x.

15. $y = 2x - 4$



Name_____ Date _____

16. $y = -\frac{1}{5}x + 2$



1 Properties Review

What were those important properties that we learned in Chapter 1? They have popped up throughout the year and we have used them many times over. Let's do a short review of them so we can focus on how we can and cannot use them.

1.1 Commutative Property

Looking at the word **commutative**, we notice it has the word *commute* inside of it. Since a commuter is someone who travels every day for work, we know this property tells us which numbers can travel inside an equation.

When we are adding two numbers, does it matter which order the numbers are in? For example, are the following two expressions the same?

$$13 + 9 = 22$$

$$9 + 13 = 22$$

As we can see, both equations have the same value.

This is because addition is a **commutative** operation. We can change the position of the numbers and get the same result.

Commutative Property of Addition
For any numbers a and b, $a + b = b + a$.

If this holds true for addition, what other operation will it be true for? What other operation is based on addition? **Multiplication!** Since multiplication is repeated addition, multiplication is also commutative. We can switch the position of the numbers and have the same value.

$$12 \cdot 11 = 121$$

$$11 \cdot 12 = 121$$

Commutative Property of Multiplication
For any numbers a and b, $a \cdot b = b \cdot a$

Can we use the commutative property in the following example?
Ex.

$$45 - 30$$

Let's see what happens. We know

$$45 - 30 = 15$$

If we switch positions the expression becomes

$$30 - 45$$

$$30 - 45 = -15$$

Since we know that $15 \neq -15$, the commutative property does NOT work for subtraction. YOU CAN NOT MOVE NUMBERS IN SUBTRACTION. Be very careful with your negative signs.

The commutative property can be used for *addition* and *multiplication* to make a problem simpler.

State whether you can use the commutative property in the following expressions.

1. $56 \cdot 92 \cdot 15$
2. $43 + 23 - 18$
3. $28 - 6 - 190$
4. $14 \div 7$

1.2 Associative Property

The commutative property is closely related to the **associative property**. We see the word *associate* which means to connect or work with, so the associative property connects numbers together.

In the expression

$$4 + 2 + 8$$

we notice that $8 + 2 = 10$ but according to the order of operations we need to do $4 + 2$ first. We can use the commutative property to rewrite the equation as

$$8 + 2 + 4$$

to solve this problem. However, since we know it doesn't matter in what order we add or multiply numbers, the associative property says we can change the order of operations by adding or moving parentheses. We can rewrite the expression as

$$4 + (2 + 8)$$

The commutative property tells us we can change the position of the numbers for addition or multiplication. The associative property tells us we can change the order in which we add or multiply since the order in which we add or multiply does not matter.

Associative Property of Addition
For any numbers a, b, and c, $(a + b) + c = a + (b + c)$
Associative Property of Multiplication
For any numbers a, b and c, $(a \cdot b) \cdot c = a \cdot (b \cdot c)$

Remember, this is ONLY for addition and multiplication, not subtraction or division.

1.3 Distributive Property

We can see the word *distribute*, which means to spread out or share out, in this property. The **distributive property** has to do with how we can spread out multiplication.

Consider the following expression:

$$8 \cdot 17$$

One way to solve this is to use our multiplication algorithm and find out

$$8 \cdot 17 = 136$$

But we can also break the problem down into simpler pieces. We can break 17 up into smaller numbers.

$$8 \cdot 17 = 8(10 + 7)$$

Now if we break the problem apart,

$$8 \cdot 10 + 8 \cdot 7 = 80 + 56$$

$$80 + 56 = 136$$

We get the same value. This is called the **distributive property**. It allows us to break a more difficult problem into smaller pieces with can easily be solved.

Distributive Property of Multiplication
For any numbers a, b and c, $a \times (b + c) = (a \times b) + (a \times c)$

This also works for subtraction as well Consider the expression

$$21 \cdot 19$$

We can break this expression up into more manageable pieces.

$$21 \cdot 19 = 21(20 - 1)$$

First rewrite 19 into numbers that are easy to multiply.

$$21(20 - 1) = 21 \cdot 20 - 21 \cdot 1$$

Next distribute the 21 to both numbers.

$$21 \cdot 20 - 21 \cdot 1 = 420 - 21$$

Solve.

$$21 \cdot 19 = 399$$

Distributive Property of Subtraction
For any numbers a, b and c, $a \times (b - c) = (a \times b) - (a \times c)$

2 Inequality Review

We've spent a lot of time this year solving different equations and a little time this year solving inequalities. Let's review how to solve different inequalities.

2.1 Types of Inequalities

We have approximately one symbol for equality in mathematics: $=$. However, there are many ways of being in-equal. Is the number greater? Is the number less? Here are five different inequalities with five different meanings.

$\neq$	not equal to
$<$	less than
$\leq$	less than OR equal to
$>$	greater than
$\geq$	greater than OR equal to

Notice the difference between $<$ and $\leq$. If we have the inequality

$$x < 4$$

Any number less than 4 makes this a true statement, but not including 4 for x. We can choose 3.99, but not 4.

If we have the inequality

$$x \leq 4$$

We know that x can be any number less than or equal to 4, INCLUDING 4.

2.2 Solving Inequalities

Fortunately, solving inequalities uses the same method as solving equations, which we have practiced throughout the whole year. To solve for all the possible values of the variable, use inverse operations to isolate the variable, to get it by itself.

Ex.

$$4x \geq 52$$
$$\frac{4x}{4} \geq \frac{52}{4}$$
$$x \geq 13$$

In order to cancel the multiplication, use the inverse operation of division. Notice that the inequality stays the same the entire time and does not change. Now we know that any number greater than or equal to 13 makes this a true statement.

Make sure that you are using the inequality in your answer. This statement is true for ANY number greater than or equal to 13, which means there are infinitely many possibilities. If you do not use the inequality, you aren't giving *all* the possible answers.

Ex.

$$y - 13 < 71$$
$$y - 13 + 13 < 71 + 13$$
$$y < 84$$

2.3 Video

Now watch today's video lesson on Google Classroom.