Remote Learning Packet

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

April 13th - April 17th, 2020

Course: Algebra I

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Weekly Plan:

Monday, April 13

- ☐ Chapter 7, Extra Practice: Skills, page 651-652: Problems 9-63, mod 3
- ☐ Chapter 7, Problem Solving, page 671 (7-3, 7-4 and 7-5) "Solve" 2 and 4 for each section

Tuesday, April 14

- ☐ Chapter 9, Extra Practice: Skills, page 656-657: Problems 8-30, evens
- ☐ Chapter 9, Problem Solving, page 676-677 sect.: 9-4 #3, 6; 9-5 #2, 5; 9-6 #2, 6

Wednesday, April 15

- ☐ Read pg. 478-479 and go through the examples given
- ☐ Pg. 480-481 WE #2, 3, 6-32 even

Thursday, April 16

- ☐ Read pg. 482-483 and go through the examples given
- ☐ Pg. 485 WE #2-30 even

Friday, April 17

- ☐ Read pg. 486-487 and go through the examples given
- ☐ Pg. 488 WE #1-22 all

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

For Monday and Tuesday's assignment, if you're having difficulty remembering how to do the problems, **the lesson in which they were taught is posted on the right side of the page.** Turn back to that lesson and review it for help in your textbook. If you have reviewed the lesson and still don't understand, please continue on to the next problem, until you have tried to work each one. For the new topics, it might be necessary to work some of the odd problems (if not part of the assignment) on your own and compare them with answers in the back of the book to prepare for the even problems. Remember you must always justify your answers through your work to receive full credit. Please use lined, loose-leaf paper and make sure to include a heading for each assignment. As always, feel free to email me during the schooldays with questions.

Monday, April 13th

Things to remember from Section 7-2 to 7-9

Definition of a^{-n}
If *a* is a nonzero real number and *n* is a positive integer,
$a^{-n} = \frac{1}{a^n}$

Definition of a^0
If *a* is a nonzero real number,
$a^0 = 1$
The expression 0^0 has no meaning.

Summary of Rules of exponents (let *m* and *n* be any integer, and let *a* and *b* be any nonzero integers)

1. Products of powers	$b^m b^n = b^{m+n}$
2. Quotients of powers	$b^m \div b^n = b^{m-n}$
3.Power of a power	$(b^m)\text{^}n = b^{mn}$
4. Power of a product	$(ab)^m = a^m b^m$
5. Power of a quotient	$(\frac{a}{b})^m = \frac{a^m}{b^m}$

Tuesday, April 14th

Things to remember from Chapter 9

Make sure to reacquaint yourself with the various methods of solving systems of equations (mainly substitution and elimination) from our previous studies. Your textbook gives great examples to follow, or if you need any online help refer to this link for the Khan Academy https://www.khanacademy.org/math/algebra-basics/alg-basics-systems-of-equations for a plethora of examples. As always feel free to contact me with questions.

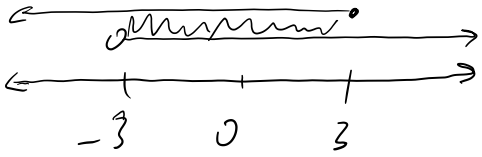
Wednesday, April 15th

Section 10-4

Conjunction - "and", to solve for a given variable, find the values for the variable that will make "both" sentences true (overlapping sets).

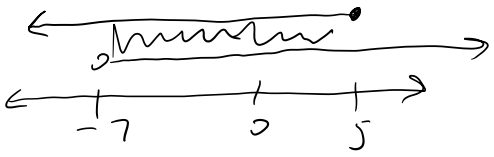
Disjunction - "or", to solve for a given variable, find the values for the variable in which "at least one" of the sentences is true.

1. conjunction: $x > -3$ *and* $x \leq 3$



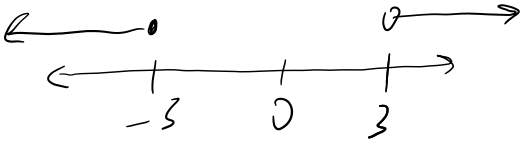
$-3 < x \leq 3$

2. $x \leq 5$ *and* $x > -7$

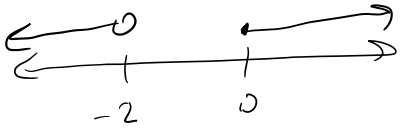


$-7 < x \leq 5$

3. disjunction: $x > 3$ *or* $x \leq -3$



4. $x < -2$ *or* $x \geq 0$



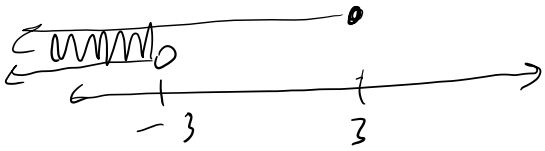
5. $-2 < m + 1 \leq 4$

Conjunction, so the answer must be $m < -3$ to make both true

$-2 < m+1$ $\quad$ $m+1 \leq 4$

$-1 = -1$ $\quad$ $-1 = -1$

$-3 < m$ $\quad$ $m \leq 3$



5. $1 + 5y \leq -4$??? $4y > y + 9$

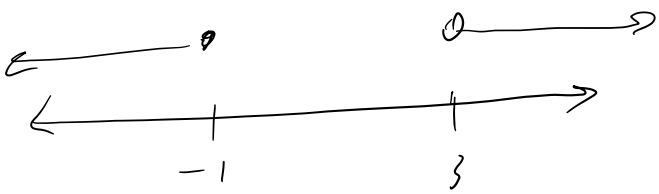
If this is a conjunction (and), there is no solution to make both true. If this is a disjunction $y \leq -1$ *or* $y > 3$ will make either inequality true

$1+5y \leq -4$ $\quad$ $4y > y+9$

$-1 = -1$ $\quad$ $-y = -y$

$\frac{5y}{5} \leq \frac{-5}{5}$ $\quad$ $\frac{3y}{3} > \frac{9}{3}$

$y \leq -1$ $\quad$ $y > 3$



Thursday, April 16th
Section 10-5

Examples:

Solve.

1. $|r + 4| = 1$

$r+4=1$ or $r+4=-1$

$-4=-4$ $\quad$ $-4=-4$

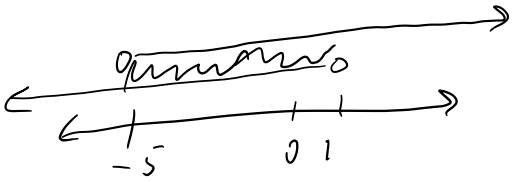
$r=-3$ or $r=-5$

2. $|w + 2| < 3$

$-3 < w+2 < 3$

$-3 < w+2 \quad w+2 < 3$

$-5 < w \quad w < 1$



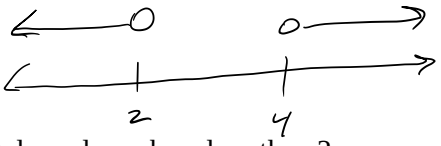
Only real numbers between -5 and 1 will solve this inequality

3. $|x - 3| > 1$

$-1 > x-3 > 1$

$-1 > x-3 \quad x-3 > 1$

$2 > x \quad x > 4$



Only real numbers lees than 2 or greater than four will solve this inequality

a. Translate the equation or inequality into a word sentence about the distance between numbers.
b. State a conjunction or disjunction equivalent to the given sentence.

1. $|x + 7| = 2$
a. The solution must be a number whose distance from -7 is 2.
b. $x + 7$ must equal 2 or -2.

$x+7=2 \quad x+7=-2$

$x=-5$ or $x=-9$

2. $|t + 6| > 9$
a. The distance between t and -6 must be no more than 9.
b. $t + 6$ must be greater than 9 or less than -9.

$t+6>9 \quad t+6<-9$

$t>3$ or $t<-15$

Written Ex.
2. $|y + 2| = 2$

5. $|n - 4| \leq 1$

$y+2=2 \quad y+2=-2$

$y=0 \text{ or } y=-4$

$n-4 \leq 1 \quad -1 \leq n-4$

$n \leq 5 \text{ and } 3 \leq n$

$3 \leq n \leq 5$

You will find that when the absolute value of thevariable or variable expression is less than a number you will have a conjunction, but when it is greater than a value, you will have a disjunction.

21. $|6-p| \leq 2$

$6-p \leq 2 \quad -2 \leq 6-p$

$-p \leq -4 \quad -8 \leq -p$

$-1 \quad -1 \quad -1 \quad -1$

$p \geq 4 \quad 8 \geq p$

$4 \leq p \leq 8$ (conjunction)

32. $8-|1-x|>7$

$-8 \quad -8$

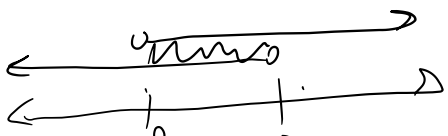
$(-1)(-|1-x|) > (-1)(1)$

$|1-x| < 1$

$1-x < 1 \text{ and } -1 < 1-x$

$-x < 0 \quad -2 < -x$

$x > 0 \quad 2 > x$



Since I multiplied both sides by a negative, what once looked like a disjunction became a conjunction

Friday, April 17th
Section 10-6

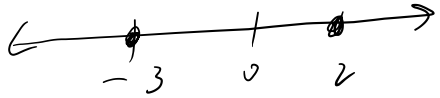
Solve each open sentence and graph its solution set.

1. $|2x + 1| = 5$

$2x+1=5 \quad 2x+1=-5$

$2x=4 \quad 2x=-6$

$x=2 \quad x=-3$

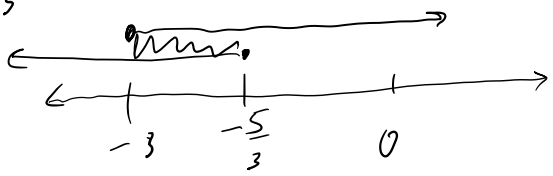


2. $|3k - 2| \leq 7$

$-7 \leq 3k-2$ and $3k-2 \leq -7$

$-5 \leq 3k \quad 3k \leq -9$

$-\frac{5}{3} \leq k \quad k \leq -3$



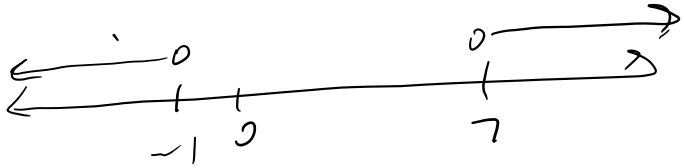
$-3 \leq k \leq -\frac{5}{3}$

3. $|4y - 12| > 16$

$-16 > 4y-12$ or $4y-12 > 16$

$\frac{-4}{4} > \frac{4y}{4} \quad \frac{4y}{4} > \frac{28}{4}$

$-1 < y$ or $y > 7$



4. $\left|\frac{y}{4}\right| \geq 1$

$-1 \geq \frac{y}{4} \quad \frac{y}{4} \geq 1$

$-4 \geq y$ or $y \geq 4$