Summer Work for Advanced Algebra 2

Instructions: It's expected that all of this material is review of courses you have already taken and presumed passed! This is an **INDIVIDUAL** assignment. However, if you are still confused, unsure, or stressed out and need guidance please email me rmulhern@holycrosshs-ct.com with any questions. I will be checking my email constantly over the next month expecting there are going to be places where you get confused.

Grading: This packet will count as a 20 point Quiz and is due the **First** day of class. It will be followed by a test within the first week or two of classes. This acts as a review for your first test.

Notes: Given below is the accompanying notes that would have been taught for this lesson during Algebra 1 Honors here. For those who need to review them, forgot some details, or didn't take algebra here. Examples aren't given, but steps, process, rules and things to recall are.

Solving Equations:
Step 1. Simplify each side of the equation by:
Clear fractions, LCD
Distribute
Combine like terms

Step 2. Move all variables to one side
Inverse operations
Combine like terms

Step 3. Isolate variable
Inverse operation
solve

Step 4. Check
Substitute and solve
Other notes: Special solutions, variables in denominators

Solving and Graphing inequalities:
Step 1. Solve like equations except:
When multiple/divide by negative flip the inequality sign
"and" statements
"or" statements
Step 2. Graph solution on number line:
<,> open circles (doesn't include value)
$\leq, \geq$ closed circles (does include value)
Step 3. Determine and write the solution for compound and/or statements using inequality notation
Step 4. Check
Substitute points into solution(s) to check

Solving absolute value equations and inequalities:

Step 1. Simplify, LCD Don't change absolute value!
Step 2. Isolate the absolute value
Step 3. Split into 2 statements:
$|x| = a$----------> x = a or x = -a

$|x| \geq 3$----------> $x \geq a$ **or** $x \leq -a$
$|x| \leq 3$----------> $|x| \leq a$ and $|x| \geq -a$
Step 4. Solve and graph

Advanced Algebra 2
(Algebra 1 Review)

Name:_____

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1. Solve: $\frac{2x-5}{4} - \frac{x+6}{2} = \frac{5x}{8} - 1$

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2. Solve: $\frac{2x+5}{3} - \frac{3x-2}{4} = \frac{x+1}{2} + \frac{4-5x}{6}$

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3. Solve: $2x - 3(4x + 5) + 8 = 16 - (7x + 1)$

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4. Solve: $\frac{x-5}{12} - \frac{x-3}{8} = 1 - \frac{2x}{3}$

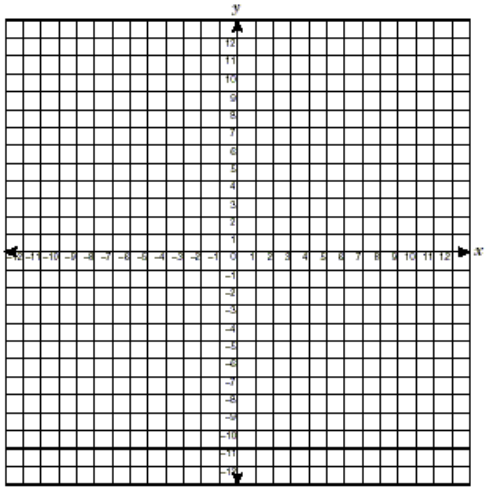
5. Simplify: $(3x-2)(4x+1)+(6x+2)^2$

6. Solve and graph: $-2[3-(4x+2)]<6(x-4)+6$

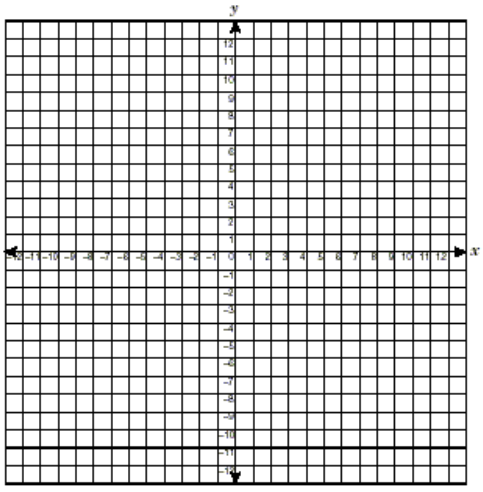
7. Solve and graph: $\frac{3x-4}{6}-\frac{1-2x}{3}\geq\frac{x}{2}+2$

8. Solve and graph: $-3(x+2)\leq\frac{5}{2}(x+2)<2+2(4+x)$

9. Graph the line $2x - 3y = 9$



10. Graph the line $y = -\frac{5}{2}x + 2$



11. Is the line $x = -1$ vertical or horizontal? _____

12. Is the line $y = 7$ vertical or horizontal? _____

13. What is the slope of the line $5x + 7y = -10$?

14. What is the x-intercept of the line $4x - y = 8$? Give your answer as an ordered pair.

15. What is the y-intercept of the line $3x + 6y = 4$? Give your answer as an ordered pair.

16. What is the slope of the line through the points (7, -2) and (5, 12)?

17. Write the equation of the line through the points (3, 6) and (2, -1) in slope-int form.

18. Write the equation of the line parallel to $y = 3x - 6$ and through the point (4, 7) in slope-intercept form.