

## **MATH SUMMER ASSIGNMENT ALGEBRA 2**

Mathematics is foundational and it is crucial that students maintain certain skills and conceptual understandings to be able to succeed in future mathematics courses. It is for this reason that we have developed numerous summer assignments that are designed to help students review, refresh, and improve upon **prerequisite skills** to prepare for future courses.

This year, we are requiring students to complete summer assignments to ensure that they are prepared for the year. The assignments were designed by content teachers to help students be better prepared for math work in the fall. Students will be given time in class to clarify questions, practice concepts and will be assessed during the first week of school.

**For College and Honors Algebra 2, the summer assignment will be due the first week of class and graded as a classwork assignment.**

Name: \_\_\_\_\_

### Algebra 2 Summer Assignment

**COLLEGE LEVEL: Complete #1-8 and 13**  
**HONORS LEVEL: Complete all of the problems**

Solve each equation.

1)  $4x - \frac{5}{3} + 2x = 7 + \frac{2}{9}x + 2$

2)  $A = \frac{1}{2}bh$  Solve for  $b$ .

Evaluate each function.

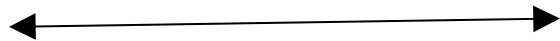
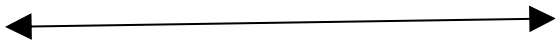
3)  $g(x) = \frac{4}{7}x - \frac{3}{5}$  for  $g(2)$

4)  $f(x) = 2x^2 + 4$  for  $f(\frac{2}{3})$

Solve and graph each inequality on a number line.

5)  $\frac{-7}{2}m < 14$

6)  $5 + 3n \geq 1$  or  $2 - 6n > 14$



Write the equation of the line in slope-intercept form given the two coordinates.

7) Passes through (0, 4) and (2, 1)

8) Passes through (5, -8) and (-3, 3)

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Simplify completely. (No negative exponents)

9)  $\left(\frac{a^3}{m}\right)^{-4}$

10)  $\frac{r^3t^{-7}}{t^5}$

Put into simplified radical form (No decimals)

11)  $\frac{7\sqrt{20}}{12\sqrt{5}}$

12)  $\frac{\sqrt{8}}{\sqrt{24}}$

13) Billy is framing a picture with a rectangular frame. The frame has a perimeter of 62 inches. The height of the frame is  $\frac{2}{3}$  times the length. Find the dimensions of the rectangle.

a. Define the variable(s)

b. Write an equation to represent the situation.

c. Solve.

14) The band, "The 1975" has agreed to come to LHS for a private concert! The band will charge \$820 plus  $\frac{1}{4}$  of the ticket sales. Find the ticket sales needed for the band to receive at least \$1,000.

a. Define the variable(s)

b. Write an inequality to represent the situation.

c. Solve.

## Summer Assignment—Algebra 2 :Videos that may help

<b>#1 Solving a linear equation</b>	<a href="https://virtualnerd.com/algebra-1/linear-equations-solve/variables-both-sides-equations/variables-both-sides-solution/variables-and-fraction-both-sides-example">https://virtualnerd.com/algebra-1/linear-equations-solve/variables-both-sides-equations/variables-both-sides-solution/variables-and-fraction-both-sides-example</a>
<b>#2 Solving an equation for a variable</b>	<a href="https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-old-school-equations/v/solving-for-a-variable">https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-old-school-equations/v/solving-for-a-variable</a>
<b>#3 ,4 Evaluate a function</b>	<a href="https://www.youtube.com/watch?v=_e0EdEGpcvc">https://www.youtube.com/watch?v=_e0EdEGpcvc</a>
<b>#5 Solving and graphing an inequality</b>	<a href="https://virtualnerd.com/algebra-1/linear-inequalities/multi-step-examples/multi-step-solutions/inequality-two-step-solution-and-graph">https://virtualnerd.com/algebra-1/linear-inequalities/multi-step-examples/multi-step-solutions/inequality-two-step-solution-and-graph</a>
<b>#6 Solving a compound inequality</b>	<a href="https://virtualnerd.com/algebra-1/linear-inequalities/compound/compound-or-type/compound-or-number-line-graph-solution">https://virtualnerd.com/algebra-1/linear-inequalities/compound/compound-or-type/compound-or-number-line-graph-solution</a>
<b>#7 , 8 Writing equation of a line given two points.</b>	<a href="https://virtualnerd.com/algebra-1/linear-equation-analysis/slope-intercept-form/slope-intercept-form-examples/slope-intercept-from-two-points">https://virtualnerd.com/algebra-1/linear-equation-analysis/slope-intercept-form/slope-intercept-form-examples/slope-intercept-from-two-points</a>
<b>#9, 10 Properties of exponents</b>	<a href="https://www.youtube.com/watch?time_continue=266&amp;v=c4ajYf3fzVQ&amp;feature=emb_logo">https://www.youtube.com/watch?time_continue=266&amp;v=c4ajYf3fzVQ&amp;feature=emb_logo</a>

<b>#11,12 Radical Expressions</b>	<a href="https://virtualnerd.com/algebra-1/radical-expressions-equations/simplify/simplest-form/rationalize-denominator-example">https://virtualnerd.com/algebra-1/radical-expressions-equations/simplify/simplest-form/rationalize-denominator-example</a>
<b>Problem #13 Solving a word problem using linear equation</b>	<a href="https://www.youtube.com/watch?v=iimpwYBiKNg">https://www.youtube.com/watch?v=iimpwYBiKNg</a>
<b>Problem #14 Solving a word problem with linear inequality</b>	<a href="https://www.khanacademy.org/math/algebra-basics/alg-basics-linear-equations-and-inequalities/alg-basics-two-step-inequalities/v/writing-and-using-inequalities-3">https://www.khanacademy.org/math/algebra-basics/alg-basics-linear-equations-and-inequalities/alg-basics-two-step-inequalities/v/writing-and-using-inequalities-3</a>