

Algebra 2

Summer IXL Extra Credit Opportunity:

Hello Wonderful Algebra 2 students,

I hope you are having a great start to summer! You will have a special opportunity to get extra credit over the summer. **This summer work will allow you to replace your lowest test score of the 1st Quarter with up to a 100%.**

Typically, students are given a packet of math pages to complete over the summer, and just as typically, many will either hurriedly work through the pages to complete them (getting them DONE), or wait until the end of summer and rush to finish the pages before school starts. Neither of these scenarios is helpful, so this summer the math department is using IXL. The goal is not to "ruin" your summer vacation; instead, the goal is to keep your working knowledge of mathematical skills fresh.

Here is the list of the math skills all incoming Algebra 2 students should review over the summer. Each student may choose up to 100 of the sections below to a **score of 75** by working 15-20 minutes per day over the summer vacation. Please do not try to finish all the assignments at the beginning of summer just to, "Get them done." Instead, build the habit of 15-20 minutes per day. This will keep your mind mathematically engaged through the summer and will enable you to start the new year "running!" The Algebra 2 book requires that you have a mastery of Algebra 1 skills to be truly ready and able to achieve real success for the next school year. The 15-20 minutes per day should not be burdensome and reaching a **score of 75** in each section is not too difficult. The 15-20 minutes you spend each day will keep you primed and ready to tackle next year's adventure in mathematics!

Have a wonderful summer! I am available via email (stmcdowell@cvcs.org) over the summer except for 8/2-8/12.

In addition, it would be very helpful for all Algebra 2 students to purchase the book over the summer so you can bring your book and be prepared on the first day of school. The book on Amazon (used) is very reasonable right now, but the longer you wait to buy it the more expensive it will be. Here is what you need: **Algebra 2 Common Core, Pearson 2015; ISBN #: 978-0-13-328116-3**

Mrs. McDowell

Here are all the sections of IXL for Algebra 2. You may choose up to 100 sections *to a score of 75 from the given list below*. If you complete 100 sections to a score of 75, then you can replace your lowest test score of the 1st quarter with a 100%. If you complete 85 of the sections to a score of 75, then you can replace your lowest test score with an 85% and so on.

Log on to the website: www.ixl.com/signin/cvcs. Then put in your username and password and begin the extra credit opportunity by clicking on the icon "Math" at the top of the page and then selecting "**Algebra 1**". Once you click on Algebra 1, you will see the following sections to complete-Choose only the sections I have listed below. Any other sections will not earn extra credit! I will be able to see your progress throughout the summer. This is summer work and must be completed by the first day of school to receive the extra credit.

Sometimes IXL changes the section numbers around, **so follow the section title** if for some reason the number and the title do not match up. Remember, you only need to complete each section to a **score of 75**.

Username:

Password:

If you are having trouble logging onto your IXL account:

- 1) Please try the web address of: www.ixl.com/signin/cvcs with the username and password given to you
OR
- 2) You may also go to www.ixl.com and put in your username for example: `jd@cvcs` and then your password that was given to you.

A. Numbers

- A.8 Sort rational and irrational numbers
- A.9 Classify rational and irrational numbers
- A.11 Classify numbers

F. Geometry

- 1. F.16 Pythagorean theorem
- 2. F.17 Pythagorean theorem: word problems

J. Solve linear equations

- 1. J.4 Solve two-step linear equations
- 2. J.5 Solve advanced linear equations
- 3. J.6 Solve equations with variables on both sides
- 4. J.7 Solve equations: complete the solution
- 5. J.8 Find the number of solutions to a linear equation
- 6. J.9 Create equations with no solutions or infinitely many solutions
- 7. J.10 Solve linear equations: word problems
- 8. J.11 Solve linear equations: mixed review

K. Single-variable inequalities

- 1. K.2 Write inequalities from graphs
- 2. K.3 Identify solutions to inequalities
- 3. K.4 Solve one-step linear inequalities: addition and subtraction
- 4. K.5 Solve one-step linear inequalities: multiplication and division
- 5. K.6 Solve one-step linear inequalities
- 6. K.8 Solve two-step linear inequalities
- 7. K.9 Graph solutions to two-step linear inequalities
- 8. K.10 Solve advanced linear inequalities
- 9. K.11 Graph solutions to advanced linear inequalities
- 10. K.12 Graph compound inequalities
- 11. K.13 Write compound inequalities from graphs
- 12. K.14 Solve compound inequalities
- 13. K.15 Graph solutions to compound inequalities

L. Absolute value equations and inequalities

- 1. L.1 Solve absolute value equations
- 2. L.3 Solve absolute value inequalities

N. Data and graphs

- 1. N.1 Interpret bar graphs, line graphs, and histograms
- 2. N.5 Interpret box-and-whisker plots

O. Problem Solving

1. O.1 Word problems: mixed review
2. O.2 Word problems with money
3. O.3 Consecutive integer problems

Q. Relations and functions

1. Q.2 Domain and range of relations
2. Q.4 Identify functions
3. Q.7 Evaluate a function
4. Q.8 Evaluate a function: plug in an expression

T. Linear functions

1. T.1 Identify linear functions from graphs and equations
2. T.3 Find the slope of a graph
3. T.4 Find the slope from two points
4. T.5 Find a missing coordinate using slope
5. T.6 Slope-intercept form: find the slope and y-intercept
6. T.7 Slope-intercept form: graph an equation
7. T.8 Slope-intercept form: write an equation from a graph
8. T.9 Slope-intercept form: write an equation
9. T.12 Linear equations: solve for y
10. T.18 Write equations in standard form
11. T.19 Standard form: find x- and y-intercepts
12. T.20 Standard form: graph an equation
13. T.21 Equations of horizontal and vertical lines
14. T.22 Graph a horizontal or vertical line
15. T.23 Point-slope form: graph an equation
16. T.24 Point-slope form: write an equation
17. T.27 Slopes of parallel and perpendicular lines
18. T.28 Write an equation for a parallel or perpendicular line
19. T.29 Transformations of linear functions

U. Linear inequalities

1. U.2 Linear inequalities: solve for y
2. U.3 Graph a two-variable linear inequality
3. U.6 Is (x, y) a solution to the system of inequalities?
4. U.7 Solve systems of linear inequalities by graphing

V. Systems of linear equations

1. V.1 Is (x, y) a solution to the system of equations?
2. V.2 Solve a system of equations by graphing

3. [V.5 Find the number of solutions to a system of equations](#)
4. [V.8 Solve a system of equations using substitution](#)
5. [V.10 Solve a system of equations using elimination](#)

W. Exponents

1. [W.1 Exponents with integer bases](#)
2. [W.2 Exponents with decimal and fractional bases](#)
3. [W.3 Negative exponents](#)
4. [W.4 Multiplication with exponents](#)
5. [W.5 Division with exponents](#)
6. [W.6 Multiplication and division with exponents](#)
7. [W.7 Power rule](#)
8. [W.8 Evaluate expressions using properties of exponents](#)
9. [W.9 Identify equivalent expressions involving exponents I](#)
10. [W.11 Evaluate integers raised to rational exponents](#)

X. Scientific notation

1. [X.2 Compare numbers written in scientific notation](#)
2. [X.4 Multiply numbers written in scientific notation](#)

Y. Exponential functions

1. [Y.1 Evaluate an exponential function](#)
2. [Y.2 Graph exponential functions](#)
3. [Y.4 Match exponential functions and graphs](#)
4. [Y.5 Domain and range of exponential functions: graphs](#)

Z. Monomials

1. [Z.1 Identify monomials](#)
2. [Z.2 Multiply monomials](#)
3. [Z.3 Divide monomials](#)
4. [Z.4 Multiply and divide monomials](#)
5. [Z.5 Powers of monomials](#)

AA. Polynomials

1. [AA.1 Polynomial vocabulary](#)
2. [AA.4 Add and subtract polynomials](#)
3. [AA.6 Multiply a polynomial by a monomial](#)
4. [AA.8 Multiply two binomials](#)
5. [AA.9 Multiply two binomials: special cases](#)
6. [AA.11 Multiply polynomials](#)

BB. Factoring

1. [BB.1 GCF of monomials](#)
2. [BB.2 Factor out a monomial](#)
3. [BB.4 Factor quadratics with leading coefficient 1](#)
4. [BB.5 Factor quadratics with other leading coefficients](#)

5. [BB.6Factor quadratics: special cases](#)
6. [BB.7Factor by grouping](#)
7. [BB.8Factor polynomials](#)

CC. Quadratic equations

1. [CC.1 Characteristics of quadratic functions: graphs](#)
2. [CC.6 Solve a quadratic equation using square roots](#)
3. [CC.7 Solve a quadratic equation using the zero product property](#)
4. [CC.8 Solve a quadratic equation by factoring](#)
5. [CC.9 Complete the square](#)
6. [CC.10 Solve a quadratic equation by completing the square](#)
7. [CC.11 Solve a quadratic equation using the quadratic formula](#)
8. [CC.12 Using the discriminant](#)

FF. Radical expressions

1. [FF.1Simplify radical expressions](#)
2. [FF.2Simplify radical expressions with variables](#)
3. [FF.3Simplify radical expressions involving fractions](#)
4. [FF.4Multiply radical expressions](#)
5. [FF.5Add and subtract radical expressions](#)
6. [FF.6Simplify radical expressions using the distributive property](#)
7. [FF.7Simplify radical expressions using conjugates](#)
8. [FF.8Simplify radical expressions: mixed review](#)

GG. Radical functions and equations

1. [GG.2 Domain and range of square root functions: graphs](#)
2. [GG.3 Domain and range of square root functions: equations](#)
3. [GG. 4 Graph square root functions](#)
4. [GG.5 Solve radical equations I](#)
5. [GG.6 Solve radical equations II](#)

HH. Rational functions and expressions

1. [HH.1Rational functions: asymptotes and excluded values](#)
2. [HH.2Simplify rational expressions](#)
3. [HH.3Multiply and divide rational expressions](#)
4. [HH.4Divide polynomials by monomials](#)
5. [HH.6 Add and subtract rational expressions](#)
6. [HH.7 Simplify mixed rational expressions](#)
7. [HH.8 Solve rational equations](#)
8. [HH.9 Evaluate rational expressions](#)

LL. Probability

1. [LL.1 Theoretical probability](#)
2. [LL.2 Experimental probability](#)
3. [LL.8 Counting principle](#)
4. [LL.9 Permutations](#)

MM. Statistics

[MM.2 Mean, median, mode, and range](#)

[MM.3 Calculate quartiles and interquartile range](#)

[MM.8 Interpret a scatter plot](#)

[MM.12 Write equations for lines of best fit](#)