

REQUIRED IXL for Incoming 8th Grade Students Taking Algebra 1 Honors:

(IXL cannot be started until after July 6th. All accounts will be rolled over and previous work will be deleted.)

Please follow these directions:

1. Log into IXL using your username and password. Remember you must log in from the cliffsidepark.edu website. Do not Google IXL and attempt to log in. Please contact mclarke@cliffsidepark.edu if you have any questions or do not remember your username and password.
2. Go to the Algebra 1 skills tab and complete the skills as indicated below.
3. In order to achieve mastery, you must obtain an 85 or better. You may do as many problems as necessary - no limits!
4. Skills must be completed before the first full day of school
5. This assignment will count as a project grade and you will be tested on these skills within the first full week of school in September. (more details of how this will be graded in September)

Properties

1. **H.1** Properties of addition and multiplication
2. **H.2** Distributive property
3. **H.3** Simplify variable expressions using properties
4. **H.4** Properties of equality

Variable expressions and equations

1. **I.1** Write variable expressions
2. **I.2** Simplify variable expressions involving like terms and the distributive property
3. **I.3** Identify equivalent linear expressions
4. **I.4** Write variable equations
5. **I.5** Does x satisfy the equation?
6. **I.6** Which x satisfies an equation?

Solve equations

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

Single-variable inequalities

1. **K.1** Graph inequalities
2. **K.2** Write inequalities from graphs
3. **K.3** Identify solutions to inequalities
4. **K.4** Solve one-step linear inequalities: addition and subtraction
5. **K.5** Solve one-step linear inequalities: multiplication and division
6. **K.6** Solve one-step linear inequalities
7. **K.7** Graph solutions to one-step linear inequalities
8. **K.8** Solve two-step linear inequalities
9. **K.9** Graph solutions to two-step linear inequalities

SUGGESTED but NOT Required IXL for Incoming 8th Grade Students Taking Algebra 1 Honors:

Coming into Algebra 1 as an eighth grade student here is a list of concepts that students should have a strong prior knowledge of:

1. Transformations: translations, reflections
2. Polynomials: adding, subtracting, and multiplying expressions
3. Equations: solving simple equations, multi-step equations, and equations with variables on both sides
4. Inequalities: writing, graphing and solving inequalities using addition, subtraction, multiplication, division, and multi-step
5. Functions: finding slope, graphing linear equations in standard form, slope-intercept form, and writing equations in slope-intercept form
6. Properties of exponents, and understanding what a radical is and how to simplify/estimate it (for example $\sqrt{63}$ is about 7.9 or simplified to $3\sqrt{7}$)

Below are topics in IXL that are **NOT** required but if you would like extra practice you may work on these modules...

Coordinate plane

1. **G.1** Coordinate plane review

Exponents

1. **V.1** Exponents with integer bases
2. **V.2** Exponents with decimal and fractional bases
3. **V.3** Negative exponents
4. **V.4** Multiplication with exponents
5. **V.5** Division with exponents
6. **V.6** Multiplication and division with exponents
7. **V.7** Power rule

8. **V.8** Evaluate expressions using properties of exponents
9. **V.9** Identify equivalent expressions involving exponents
10. **V.10** Evaluate integers raised to rational exponents

Linear functions

1. **S.1** Identify linear functions
2. **S.2** Find the slope of a graph
3. **S.3** Find the slope from two points
4. **S.4** Find a missing coordinate using slope
5. **S.5** Slope-intercept form: find the slope and y-intercept
6. **S.6** Slope-intercept form: graph an equation
7. **S.7** Slope-intercept form: write an equation from a graph
8. **S.8** Slope-intercept form: write an equation
9. **S.9** Slope-intercept form: write an equation from a table
10. **S.10** Slope-intercept form: write an equation from a word problem
11. **S.11** Linear equations: solve for y
12. **S.12** Write linear functions to solve word problems
13. **S.13** Complete a table and graph a linear function
14. **S.14** Compare linear functions: graphs, tables, and equations
15. **S.15** Write equations in standard form
16. **S.16** Standard form: find x- and y-intercepts
17. **S.17** Standard form: graph an equation
18. **S.18** Equations of horizontal and vertical lines
19. **S.19** Graph a horizontal or vertical line

Relations and functions

1. **Q.1** Relations: convert between tables, graphs, mappings, and lists of points
2. **Q.2** Domain and range of relations
3. **Q.3** Identify independent and dependent variables
4. **Q.4** Identify functions

Radical expressions

1. **EE.1** Simplify radical expressions
2. **EE.2** Simplify radical expressions with variables
3. **EE.3** Simplify radical expressions involving fractions
4. **EE.4** Multiply radical expressions
5. **EE.5** Add and subtract radical expressions
6. **EE.6** Simplify radical expressions using the distributive property
7. **EE.7** Divide radical expressions

8. **EE.8** Simplify radical expressions: mixed review

Polynomials

1. **Z.4** Add and subtract polynomials
2. **Z.5** Add polynomials to find perimeter
3. **Z.6** Multiply a polynomial by a monomial
4. **Z.7** Multiply two polynomials using algebra tiles
5. **Z.8** Multiply two binomials
6. **Z.9** Multiply two binomials: special cases
7. **Z.10** Multiply polynomials