X^2 Algebra 1
Objectives List

Math·U·See®

> ⚠ The checkboxes on the right side below may be used to help you record student progress. For example, you can record quarterly grades, or you can indicate level of skill development (not yet begun, beginning, developing, mastered).

Lesson	Number	Objective	✔	✔	✔	✔
1	A1.1.a	Identify the operations to which the Associative and Commutative Properties apply				
1	A1.1.b	Rewrite addition or multiplication expressions using the Associative and/or Commutative Properties				
1	A1.1.c	Rewrite subtraction expressions as addition before using Associative or Commutative Properties				
1	A1.1.d	Use the Associative and Commutative Properties to solve equations				
1	A1.1.e	Perform operations with integers				
2	A1.2.a	State the priority for multiple operations in the same equation or expression				
2	A1.2.b	Simplify expressions using the order of operations				
3	A1.3.a	Define a variable				
3	A1.3.b	Solve single-variable linear equations, applying the principles of additive and multiplicative inverses				
3	A1.3.c	Model simple linear equations using manipulatives				
4	A1.4.a	Use factoring and the Distributive Property to simplify expressions				
4	A1.4.b	Simplify expressions to solve equations				
5	A1.5.a	Plot numbers on a number line				
5	A1.5.b	Plot single-variable inequalities on a number line				
5	A1.5.c	Identify the coordinates of a given point on the Cartesian plane				
5	A1.5.d	Identify in which quadrant of the Cartesian plane a point lies				
5	A1.5.e	Plot a point on the Cartesian plane, given a pair of coordinates				
6	A1.6.a	Write a linear equation for a real-world scenario				

Lesson	Number	Objective	✔	✔	✔	✔
6	*A1.6.b*	Substitute for the variables in an equation to determine solutions				
6	*A1.6.c*	Create a table for a real-world scenario				
6	*A1.6.d*	Graph the data provided on a table in a Cartesian plane				
6	*A1.6.e*	Determine whether a set of data demonstrates a linear relationship				
7	*A1.7.a*	Find the slope and y-intercept of a line graphed on the Cartesian plane				
7	*A1.7.b*	Find the slope and y-intercept of a line represented by a given equation				
7	*A1.7.c*	Give the equation of a line graphed on the Cartesian plane				
7	*A1.7.d*	Describe the equation of a line as a relationship between a dependent and an independent variable				
8	*A1.8.c*	Graph a linear equation				
8	*A1.8.b*	Give the equation for any horizontal or vertical line				
8	*A1.8.c*	Describe the visual difference between positive and negative slope				
8	*A1.8.d*	Explain that a numerically larger slope is steeper than a numerically smaller slope				
9	*A1.9.a*	Rewrite linear equations in standard form				
9	*A1.9.b*	Rewrite linear equations in slope-intercept form				
9	*A1.9.c*	Given a pair of equations, determine whether the lines they represent are parallel, without graphing				
10	*A1.10.a*	Determine whether a given equation represents a line perpendicular to a given line on a graph				
10	*A1.10.b*	Define perpendicular lines				
10	*A1.10.c*	Explain the relationship between the slopes of two perpendicular lines				
10	*A1.10.d*	Write the equation of a line perpendicular to a given line that runs through a specific point				
11	*A1.11.a*	Find the equation in y-intercept form when given the slope and one point on a line				
11	*A1.11.b*	Find the slope when given two points on a line				
11	*A1.11.c*	Find the equation in y-intercept form when given two points on a line				
12	*A1.12.a*	Graph a linear inequality correctly				

Lesson	Number	Objective	✔	✔	✔	✔
12	A1.12.b	Name a pair of points which are on opposite sides of the boundary line of a linear inequality				
12	A1.12.c	Determine whether a given point is a solution to a linear inequality				
13	A1.13.a	Explain that the graph of a line represents all the ordered pairs that make the line's equation true				
13	A1.13.b	Explain that the intersection of two lines represents the one point that makes the equations of both lines true				
13	A1.13.c	Explain that two parallel lines have no intersection and that their equations have no common solution				
14	A1.14.a	Rewrite a given equation in a form that expresses one variable in terms of the other				
14	A1.14.b	Replace a variable in one equation with an expression expressing that variable in terms of the other variable				
14	A1.14.c	Substitute the value of a known variable into a linear equation and solve for the unknown variable				
15	A1.15.a	Rewrite one equation from a system of equations to prepare for elimination of one variable by addition				
15	A1.15.b	Eliminate one variable in a system of equation by adding two equations				
16	A1.16	Solve a system of equations for coin problems				
17	A1.17	Solve an equation or set of equations for consecutive integer problems				
18	A1.18.a	Use addition of exponents to multiply factors with the same base				
18	A1.18.b	Use subtraction of exponents to divide factors with the same base				
19	A1.19.a	Rewrite an expression with a negative exponent as the multiplicative inverse of the same expression with a positive exponent				
19	A1.19.b	Rewrite negative exponents as fractions				
19	A1.19.c	Rewrite fractions as expressions with negative exponents				
19	A1.19.d	Identify numbers with an exponent of 0 as being equal to 1				
19	A1.19.e	Raise an exponential expression to a power by multiplying exponents				
19	A1.19.f	Rewrite rational expressions using negative exponents so that all the exponents are positive				
20	A1.20.a	Model second-order polynomials using manipulatives				
20	A1.20.b	Model addition of second-order polynomials using manipulatives				
20	A1.20.c	Add second-order polynomials				

Lesson	Number	Objective	✔	✔	✔	✔
20	*A1.20.d*	Model multiplication of binomials using manipulatives				
20	*A1.20.e*	Multiply binomials				
21	*A1.21.a*	Model factorization of second-order polynomials using manipulatives				
21	*A1.21.b*	Factor second-order polynomials into two binomial factors				
22	*A1.22.a*	Model factorization of second-order polynomials where the coefficient of the squared term is not 1				
22	*A1.22.b*	Use vertical multiplication to factor second-order polynomials where the coefficient of the squared term is not 1				
22	*A1.22.c*	Use FOIL to factor second-order polynomials where the coefficient of the squared term is not 1				
23	*A1.23.a*	Model factorization of second-order polynomials where some terms are negative				
23	*A1.23.b*	Factor second-order polynomials using vertical multiplication where some terms are negative				
23	*A1.23.c*	Factor second-order polynomials using FOIL where some terms are negative				
24	*A1.24.a*	Find the square root of a perfect square trinomial using manipulatives				
24	*A1.24.b*	Model division of a trinomial by a binomial				
24	*A1.24.c*	Perform long division of a trinomial by a binomial				
25	*A1.25.a*	Model the factorization of the difference of two squares				
25	*A1.25.b*	Factor the difference of two squares				
26	*A1.26.a*	Identify the appropriate strategies to use in factoring a polynomial				
26	*A1.26.b*	Factor a polynomial completely				
27	*A1.27.a*	Factor to solve quadratic equations				
27	*A1.27.b*	Check solutions to quadratic equations				
28	*A1.28.a*	Create unit multipliers				
28	*A1.28.b*	Identify the correct unit multiplier to use in a given problem				
28	*A1.28.c*	Use a unit multiplier to convert from one unit to another				
29	*A1.29.a*	Identify the number of times a unit multiplier needs to be used based on whether a conversion is in one, two, or three dimensions				

Lesson	Number	Objective	✔	✔	✔	✔
29	A1.29.b	Identify when different unit multipliers need to be used				
30	A1.30.a	Convert between metric and customary units of length, using unit multipliers				
30	A1.30.b	Convert between metric and customary units of weight/mass, using unit multipliers				
30	A1.30.c	Convert between metric and customary units of volume, using unit multipliers				
31	A1.31.a	Rewrite a radical expression as a base with a fractional exponent				
31	A1.31.b	Rewrite a base with a fractional exponent as a radical expression				
32	A1.32.a	Identify the number of significant digits in a given number				
32	A1.32.b	Express answers to addition and multiplication problems using the correct number of significant digits				
32	A1.32.c	Convert numbers to and from scientific notation				
32	A1.32.d	Use scientific notation to multiply and divide both very large and very small numbers				
33	A1.33.a	Convert numbers from base ten to other bases				
33	A1.33.b	Convert numbers from other bases to base ten				
34	A1.34.a	State the center and radius of a circle given its equation				
34	A1.34.b	State the center and extremities of an ellipse based on its equation				
34	A1.34.c	Explain how circles and ellipses are generated as conic sections				
34	A1.34.d	Graph a circle				
34	A1.34.e	Graph an ellipse				
35	A1.35.a	Plot points and sketch a parabola given its equation				
35	A1.35.b	Plot a point and sketch a hyperbola given its equation				
35	A1.35.c	Explain how parabolas and hyperbolas are generated as conic sections				