

# ACT College Readiness Standards Alignment

		Basic Operations & Applications	Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
13–15	A1.1	Perform one-operation computation with whole numbers and decimals	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	A1.2	Solve problems in one or two steps using whole numbers	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
16–19	A2.1	Solve routine one-step arithmetic problems (using whole numbers, fractions, and decimals) such as single-step percent	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	A2.2	Solve some routine two-step arithmetic problems	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
20–23	A3.1	Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
24–27	A4.1	Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
28–32*	A5.1	Solve word problems containing several rates, proportions, or percentages	D	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
33–36†	A6.1	Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)	I	D	D	D	M	M	M	A	A	A	A	A	A	A	A	A	

Legend

- I = Introduce the skill
- D = Develop the skill
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# ACT College Readiness Standards Alignment

		<b>Probability, Statistics, &amp; Data Analysis</b>																	
			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
<b>13–15</b>	<b>B1.1</b>	Calculate the average of a list of positive whole numbers	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>B1.2</b>	Perform a single computation using information from a table or chart	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
<b>16–19</b>	<b>B2.1</b>	Calculate the average of a list of numbers	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>B2.2</b>	Calculate the average, given the number of data values and the sum of the data values	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>B2.3</b>	Read tables and graphs	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>B2.4</b>	Perform computations on data from tables and graphs	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>B2.5</b>	Use the relationship between the probability of an event and the probability of its complement												M	M				A
<b>20–23</b>	<b>B3.1</b>	Calculate the missing data value, given the average and all data values but one				D													M
	<b>B3.2</b>	Translate from one representation of data to another (e.g., a bar graph to a circle graph)	A	A	A	A													
	<b>B3.3</b>	Determine the probability of a simple event	A	A	A	A	A	A	A	A	A	A	A	A	A	A			A
	<b>B3.4</b>	Exhibit knowledge of simple counting techniques*												M					
<b>24–27</b>	<b>B4.1</b>	Calculate the average, given the frequency counts of all the data values																	
	<b>B4.2</b>	Manipulate data from tables and graphs																	
	<b>B4.3</b>	Compute straightforward probabilities for common situations												M	M				
	<b>B4.4</b>	Use Venn diagrams in counting*																	
<b>28–32*</b>	<b>B5.1</b>	Calculate or use a weighted average																	
	<b>B5.2</b>	Interpret and use information from figures, tables, and graphs																	
	<b>B5.3</b>	Apply counting techniques												M	M				
	<b>B5.4</b>	Compute a probability when the event and/or sample space are not given or obvious												M	M				
<b>33–36†</b>	<b>B6.1</b>	Distinguish between mean, median, and mode for a list of numbers				M													
	<b>B6.2</b>	Analyze and draw conclusions based on information from figures, tables, and graphs																	
	<b>B6.3</b>	Exhibit knowledge of conditional and joint probability												M	M				

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# ACT College Readiness Standards Alignment

		<b>Numbers: Concepts &amp; Properties</b>																	
			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
13–15	C1.1	Recognize equivalent fractions and fractions in lowest terms	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
16–19	C2.1	Recognize one-digit factors of a number	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	C2.2	Identify a digit's place value	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
20–23	C3.1	Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
24–27	C4.1	Find and use the least common multiple	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	C4.2	Order fractions	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	C4.3	Work with numerical factors	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	C4.4	Work with scientific notation	D	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	C4.5	Work with squares and square roots of numbers	D	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	C4.6	Work problems involving positive integer exponents*	D	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	C4.7	Work with cubes and cube roots of numbers*		D	D	D	D	D	D	D	D	M	M	M	A	A	A	A	
	C4.8	Determine when an expression is undefined*		D	D	D					M	A	M	M	A	A	A	A	
	C4.9	Exhibit some knowledge of the complex numbers†									I	D	M	M	A	A	A	A	
28–32*	C5.1	Apply number properties involving prime factorization	D	D	D	D	D	D	D	D	D	M	M	M	A	A	A	A	
	C5.2	Apply number properties involving even/odd numbers and factors/multiples	D	D	D	D	D	D	D	D	D	M	M	M	A	A	A	A	
	C5.3	Apply number properties involving positive/negative numbers	D	D	D	D	D	D	D	D	D	M	M	M	A	A	A	A	
	C5.4	Apply rules of exponents	D	D	D	D	D	D	D	D	D	A	D	M	A	A	A	A	
	C5.5	Multiply two complex numbers†									D	A	D	M	A	A	A	A	
33–36†	C6.1	Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers									D	A	D	M					
	C6.2	Exhibit knowledge of logarithms and geometric sequences										D	D	M	M	A	A	A	
	C6.3	Apply properties of complex numbers													D	M			

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		<b>Expressions, Equations, &amp; Inequalities</b>																	
			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
<b>13–15</b>	<b>D1.1</b>	Exhibit knowledge of basic expressions (e.g., identify an expression for a total as $b + g$ )	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D1.2</b>	Solve equations in the form $x + a = b$ , where $a$ and $b$ are whole numbers or decimals	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
<b>16–19</b>	<b>D2.1</b>	Substitute whole numbers for unknown quantities to evaluate expressions	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D2.2</b>	Solve one-step equations having integer or decimal answers	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D2.3</b>	Combine like terms (e.g., $2x + 5x$ )*	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
<b>20–23</b>	<b>D3.1</b>	Evaluate algebraic expressions by substituting integers for unknown quantities	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
	<b>D3.2</b>	Add and subtract simple algebraic expressions	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D3.3</b>	Solve routine first-degree equations	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D3.4</b>	Perform straightforward word-to-symbol translations	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D3.5</b>	Multiply two binomials*	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
<b>24–27</b>	<b>D4.1</b>	Solve real-world problems using first-degree equations	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D4.2</b>	Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions)	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D4.3</b>	Identify solutions to simple quadratic equations	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
	<b>D4.4</b>	Add, subtract, and multiply polynomials*	I	D	D	M	D	D	A	D	D	M	M	A	A	A	A	A	A
	<b>D4.5</b>	Factor simple quadratics (e.g., the difference of squares and perfect square trinomials)*	I	D	D	D	D	D	D	D	D	M	M	M	A	A	A	A	A
	<b>D4.6</b>	Solve first-degree inequalities that do not require reversing the inequality sign*	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	A
<b>28–32*</b>	<b>D5.1</b>	Manipulate expressions and equations	I	I	I	I	D	D	D	D	D	M	M	M	A	A	A	A	A
	<b>D5.2</b>	Write expressions, equations, and inequalities for common algebra settings	I	I	I	I	D	D	D	D	D	M	M	M	A	A	A	A	A
	<b>D5.3</b>	Solve linear inequalities that require reversing the inequality sign	I	D	D	M	D	D	D	D	M	A	M	M	A	A	A	A	
	<b>D5.4</b>	Solve absolute value equations	I	D	D	D	D	D	D	D	M	A	M	M	A	A	A	A	
	<b>D5.5</b>	Solve quadratic equations		D	D	D	D	D	D	D	M	A	M	M	A	A	A	A	
	<b>D5.6</b>	Find solutions to systems of linear equations	I	I	I	I	D	D	D		M	A	M	M	A	A	A	A	
<b>33–36†</b>	<b>D6.1</b>	Write expressions that require planning and/or manipulating to accurately model a situation	D	D	D	D	D	D	D	D	D	D	D	D	M	M	A	A	
	<b>D6.2</b>	Write equations and inequalities that require planning, manipulating, and/or solving	D	D	D	D	D	D	D	D	D	D	D	D	M	M	A	A	
	<b>D6.3</b>	Solve simple absolute value inequalities	I	D	D	D	D	D	D	D	M	A	M	M	A	A	A	A	

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			<b>Graphical Representations</b>																
			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
<b>13–15</b>	<b>E1.1</b>	Identify the location of a point with a positive coordinate on the number line	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
<b>16–19</b>	<b>E2.1</b>	Locate points on the number line and in the first quadrant	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
<b>20–23</b>	<b>E3.1</b>	Locate points in the coordinate plane	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	<b>E3.2</b>	Comprehend the concept of length on the number line*	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
	<b>E3.3</b>	Exhibit knowledge of slope*	I	M	M	M	A	A	A		A	A	A	A	A	A	A	A	
<b>24–27</b>	<b>E4.1</b>	Identify the graph of a linear inequality on the number line*		M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
	<b>E4.2</b>	Determine the slope of a line from points or equations*	I	M	M	M	A	A	A		A	A	A	A	A	A	A	A	
	<b>E4.3</b>	Match linear graphs with their equations*	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
	<b>E4.4</b>	Find the midpoint of a line segment*	I	M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
<b>28–32*</b>	<b>E5.1</b>	Interpret and use information from graphs in the coordinate plane	I	I	I	I	D	D	D		M	A	M	M	A	A	A	A	
	<b>E5.2</b>	Match number line graphs with solution sets of linear inequalities	I	I	I	I	D	D	D		M	A	M	M	A	A	A	A	
	<b>E5.3</b>	Use the distance formula	I	I	I	I	M	M	M		A	A	A	A	A	A	A	A	
	<b>E5.4</b>	Use properties of parallel and perpendicular lines to determine an equation of a line or coordinates of a point	I	D	D	D	M	M	M		A	A	A	A	A	A	A	A	
	<b>E5.5</b>	Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle)†					I	I	I			D	D	M		A	A	A	
<b>33–36†</b>	<b>E6.1</b>	Match number line graphs with solution sets of simple quadratic inequalities										D	D	M		A	A	A	
	<b>E6.2</b>	Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$				I					D		M	M		A	A	A	
	<b>E6.3</b>	Solve problems integrating multiple algebraic and/or geometric concepts																	
	<b>E6.4</b>	Analyze and draw conclusions based on information from graphs in the coordinate plane																	

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			Properties of Plane Figures																
			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
13–15			~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
16–19	F2.1	Exhibit some knowledge of the angles associated with parallel lines		I			M	M	M	A	A	A	A	A	A	A	A	A	
20–23	F3.1	Find the measure of an angle using properties of parallel lines					M	M	M	A	A	A	A	A	A	A	A	A	
	F3.2	Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 3 60°					M	M	M	A	A	A	A	A	A	A	A	A	
24–27	F4.1	Use several angle properties to find an unknown angle measure					M	M	M	A	A	A	A	A	A	A	A	A	
	F4.2	Recognize Pythagorean triples*						M	M	A	A	A	A	A	A	A	A	A	
	F4.3	Use properties of isosceles triangles*					M	M	M	A	A	A	A	A	A	A	A	A	
28–32*	F5.1	Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles					M	M	M	A	A	A	A	A	A	A	A	A	
	F5.2	Use the Pythagorean theorem		M	M	M	A	A	A	A	A	A	A	A	A	A	A	A	
33–36†	F6.1	Draw conclusions based on a set of conditions					D	D	D	D	D	D	D	D	D	D	D	D	
	F6.2	Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas					D	D	D	D	D	D	D	D	D	D	D	D	
	F6.3	Use relationships among angles, arcs, and distances in a circle					M	M	M	A	A	A	A	A	A	A	A	A	

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# ACT College Readiness Standards Alignment

## Measurement

			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
13–15	G1.1	Estimate or calculate the length of a line segment based on other lengths given on a geometric figure	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
16–19	G2.1	Compute the perimeter of polygons when all side lengths are given	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	G2.2	Compute the area of rectangles when whole number dimensions are given	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
20–23	G3.1	Compute the area and perimeter of triangles and rectangles in simple problems	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	G3.2	Use geometric formulas when all necessary information is given	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
24–27	G4.1	Compute the area of triangles and rectangles when one or more additional simple steps are required					M	M	M	A	A	A	A	A	A	A	A	A	
	G4.2	Compute the area and circumference of circles after identifying necessary information					M	M	M	A	A	A	A	A	A	A	A	A	
	G4.3	Compute the perimeter of simple composite geometric figures with unknown side lengths*					M	M	M	A	A	A	A	A	A	A	A	A	
28–32*	G5.1	Use relationships involving area, perimeter, and volume of geometric figures to compute another measure					M	M	M	A	A	A	A	A	A	A	A	A	

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# ACT College Readiness Standards Alignment

## Function†

			Essentials	A-Algebra I	CP-Algebra I	H-Algebra I	A-Geometry	CP-Geometry	H-Geometry	Intermediate	Algebra II-A	Algebra II-B	CP Algebra II	H-Algebra II	Adv. Math	H-Pre-Calculus	AP Calculus AB	AP Calculus BC	AP Statistics
13–15			~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
16–19			~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
20–23	H3.1	Evaluate quadratic functions, expressed in function notation, at integer values		D	D	D					M	A	M	M	A	A	A	A	
24–27	H4.1	Evaluate polynomial functions, expressed in function notation, at integer values		D	D	D					M	A	M	M	A	A	A	A	
	H4.2	Express the sine, cosine, and tangent of an angle in a right triangle as a ratio of given side lengths					M	M	M		A	A	A	A	A	A	A	A	
28–32*	H5.1	Evaluate composite functions at integer values									D		D	M	M	A	A	A	
	H5.2	Apply basic trigonometric ratios to solve right-triangle problems					D	M	M		A	M	A	A	A	A	A	A	
33–36†	H6.1	Write an expression for the composite of two simple functions									D		D	M	M	A	A	A	
	H6.2	Use trigonometric concepts and basic identities to solve problems													M	M	A	A	
	H6.3	Exhibit knowledge of unit circle trigonometry													M	M	A	A	
	H6.4	Match graphs of basic trigonometric functions with their equations													M	M	A	A	

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