

Algebra I—PLDs

Below Basic	Basic	Proficient	Advanced
<p>An Algebra I student performing at this level demonstrates limited understanding of the concepts and ineffective application of the mathematical skills in Algebra I.</p>	<p>An Algebra I student performing at this level solves simple or routine problems by applying skills and procedures in Algebra I.</p> <p>A student performing at the Basic Level:</p> <ul style="list-style-type: none"> • Orders and simplifies real numbers. • Identifies multiple representations of rational numbers. • Evaluates expressions with exponents, roots, or absolute values. • Simplifies expressions using non-negative exponential values. • Performs operations on and simplifies polynomial expressions (up to monomials multiplied by trinomials). • Factors polynomial expressions with no more than two factors. • Solves and graphs multistep linear equations or inequalities with integer coefficients and constants. • Solves and graphs linear equations and inequalities. • Identifies the solutions of systems of equations and inequalities. • Solves systems of equations by graphing. • Identifies the domains and ranges of relations given in ordered pairs and tables. • Graphs linear functions given equations, sets of ordered pairs, or tables. • Identifies and computes the rates of change (slopes) of lines. • Identifies and computes the y-intercepts of lines. • Creates slope-intercept forms of linear equations when given the graph or the slope and the y-intercept of lines. • Creates point-slope forms of linear equations when given the graph or the slope and a point. • Draws and identifies lines of best fit for scatter plots. • Identifies and finds the ranges, quartiles, and interquartile ranges given a box-and-whisker plot. • Answers questions based on displayed data. • Finds probabilities for compound events with replacement. 	<p>An Algebra I student performing at this level solves practical and real-world problems and demonstrates understanding of the skills, concepts, and procedures in Algebra I.</p> <p>A student performing at the Proficient Level:</p> <ul style="list-style-type: none"> • Orders and simplifies real numbers written as expressions. • Uses multiple representations of real numbers. • Uses properties of exponents to simplify terms. • Uses estimations in problem-solving situations. • Performs operations on and simplifies polynomial expressions (up to binomials multiplied by binomials). • Factors polynomial expressions. • Solves and graphs multistep linear equations or inequalities, and absolute value equations. • Writes, solves, graphs, and interprets linear equations and inequalities in problem-solving situations. • Solves systems of equations. • Interprets graphical representations of systems of two linear inequalities. • Interprets solutions to problem-solving situations. • Recognizes functions and identifies the domains and ranges of relations given in ordered pairs and tables. • Converts between multiple representations of linear functions. • Describes, computes, and/or uses the rates of change (slopes) of lines. • Describes, computes, and/or uses the y-intercepts of lines. • Creates slope-intercept or point-slope forms of linear equations when given the graph, two points, or the slope and a point. • Identifies the equations for lines of best fit for scatter plots. • Makes predictions from lines of best fit for scatter plots. • Calculates the ranges, quartiles, and interquartile ranges given data or data displays. • Analyzes data, makes predictions, and answers questions based on displayed data. • Finds probabilities for compound events. 	<p>An Algebra I student performing at this level solves complex problems and demonstrates in-depth understanding of the skills, concepts, and procedures in Algebra I.</p> <p>A student performing at the Advanced Level:</p> <ul style="list-style-type: none"> • Uses estimations to make predictions in problem-solving situations. • Performs multistep operations on and simplifies polynomial expressions. • Simplifies rational polynomial expressions. • Solves and graphs absolute value inequalities. • Uses and identifies properties to justify steps in equation-solving processes. • Writes and solves systems of equations in problem-solving situations, and interprets the results. • Writes, solves, and graphs systems of linear inequalities in problem-solving situations, and interprets the results. • Recognizes functions, and identifies the domains and ranges of relations given in graphs, ordered pairs, and tables. • Interprets, describes, computes, and/or uses the rates of change (slopes) of lines. • Interprets, describes, computes, and/or uses the intercepts of lines. • Creates standard forms of linear equations when given the graph, two points, or the slope and a point. • Writes the equations for lines of best fit for scatter plots and makes predictions. • Calculates and interprets the ranges, quartiles, and interquartile ranges given data or data displays. • Analyzes data, makes predictions, and answers questions based on multiple displays of data.

DRAFT
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These Proficiency Level Descriptors are currently in draft form. These descriptors will become finalized during the Standards Setting process after the 2011 Spring test administration.