Algebra 1 – Unit 3: Linear Equations and Inequalities in Two Variables

Expectations, Essential Questions, Enduring Understandings, Indicators and Vocabulary

Expectations

1.1 analyze a wide variety of patterns and functional relationships using the language of mathematics and appropriate technology.
1.2 model and interpret real-world situations using the language of mathematics and appropriate technology.
3.2 apply the basic concepts of statistics and probability to predict possible outcomes of real-world situations, using technology as needed.

Essential Questions

What makes a relationship linear?

Why are linear functions useful?

Enduring Understandings

Relations and functions can be represented numerically, graphically, algebraically, and/or verbally.

Linear functions represent situations involving a constant rate of change.

Indicators

1.1.1.1   recognize and describe linear functions that are expressed numerically, algebraically, and or graphically.
1.1.2.1   describe the effect of a change in the parameters a and b on the graph of a linear function $f(x) = ax + b$.
1.1.2.2   represent linear functions numerically, algebraically, and/or graphically.
1.2.1   determine the equation for a line, solve linear equations, and /or describe the solutions using numbers, symbols, and/or graphs.
1.2.1.1   determine the rate of change and the x- and y- intercepts of the graph of a linear function represented numerically, algebraically, and/or graphically.
1.2.1.2   interpret properties of linear functions, including rate of change, intercepts, and continuity, in the context of a real-world situation.
1.2.1.3   identify, describe, and apply the properties of a direct variation.
1.2.2   solve linear inequalities and describe the solutions using numbers, symbols, and/or graphs.
1.2.2.a   graph an inequality, write and/or solve an inequality, or interpret an inequality in the context of a problem.
3.2.2   interpret data and/or make predictions by finding and using a line of best fit and by using a given curve of best fit.

Vocabulary

best-fit line	boundary
constant of variation	direct variation
half-plane	line of fit
point-slope form	slope-intercept form