

Transition to STEM Unit Rubrics
Linear Functions

Standard	4 - Mastery	3 - Proficient	2 - Basic	1- Below Basic	0 - No Evidence
CA-A1-A Understand the concept of a function and use function notation.	A. Apply composite function properties in an authentic task. AND A. Explain why an authentic task does not represent a function with explicit examples.	A. Use function notation to model a function from an authentic task. AND A. Explain why an authentic task represents a function with explicit examples.	A. Write the relationship in words, as expression, or an equation not using function notation. AND A. Explain why an authentic task represents a function without explicit examples.	A. Recognize x is the independent variable and $f(x)$ is the dependent variable. AND A. Determine if a relation is a function.	A. Not yet able to understand a function or use function notation.
CA-A1-B Interpret the dependent and independent variables in the context of functions.	B. Describe the relationship the dependent and independent variables have within an authentic task.	B. Identify and interpret the independent and dependent variables within an authentic task.	B. Identify the independent and dependent variable within an authentic task.	B. Identify the independent or dependent variable within an authentic task.	B. Not yet able to determine the independent or dependent variables within an authentic task.
CA-A1-C Create and interpret expressions for functions in terms of the situations they model including selecting appropriate domains for these functions.	C. Find and correct errors of functions which represent an authentic task. Explain errors and corrections. Defend function if no error exists.	C. Write and interpret functions representing an authentic task including stating appropriate domain.	C. Write functions representing an authentic task.	C. Identify the parts of a function given for an authentic task.	C. Not yet able to write and explain a function from an authentic task which includes stating appropriate domain.
CA-A1-D Understand the relationship between a function and its graph.	D. Describe key parts of the graph and the corresponding parts (or process to find) making connections to the equation of a function.	D. Describe the type of relationship between a function and its graph within an authentic task.	D. Match a function to a graph.	D. Identify key features of a graph.	D. Not yet able to explain the relationship between a function and its graph.
CA-A1-E Find the domain, including implied domains, and the range of a function.	E. Explain and defend the implied domain of a function from an authentic task.	E. Find the domains, implied domains, and ranges of functions within an authentic task.	E. Find the domains, implied domains, and ranges of functions using equations.	E. Find the domain and range of functions graphically.	E. Not yet able to find the domains, implied domains, and ranges of functions.
CA-A1-F Analyze functions using different representations (verbal, graphic, numeric, algebraic).	F. Justify the most appropriate representations of functions and defend interpretations within an authentic task.	F. From various representations, analyze and interpret a function within an authentic task.	F. From various representations, analyze and interpret a function.	F. From one representation, analyze a function (verbally, graphically, or algebraically).	F. Not yet able to analyze functions using different representations within an authentic task.
CA-A2-LF.A. Identify dependent and independent variables in linear relationships and use this knowledge to model authentic situations.	A. Describe the relationship of the two variables in an authentic task.	A. Identify and interpret dependent and independent variables to model authentic tasks.	A. Identify the independent and dependent variable within an authentic task.	A. Identify the independent or dependent variable within an authentic task.	A. Not yet able to identify the variables of an authentic task as independent or dependent.
CA-A2-LF.B. Understand the relationship between graphs of lines and their equations including slope.	B. Compare how changes within an authentic task effect the line and its equation.	B. Describe the relationship between a graph of a line and its equation and defend within an authentic task.	B. Describe the features of a graph given a linear equation (slope, y-intercept, increasing/decreasing) within an authentic task.	B. Describe the features of a graph given a linear equation (slope, y-intercept, increasing/decreasing).	B. Not yet able to explain the relationship between lines and their equations.

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CA-A2-LF.C. Graph a line using slope- intercept form of the linear equation.	C. Graph a linear equation in standard form (or another non- slope intercept form) derived from an authentic task.	C. Given a linear equation for an authentic task, graph within an appropriate domain (label axes) and interpret key features.	C. Graph a linear equation in slope- intercept form.	C. Identify the y- intercept and slope of a linear equation in slope-intercept form.	C. Not yet able to graph a line in slope- intercept from an authentic task.
CA-A2-LF.D. Determine the equation of a line (Slope intercept form) from its graph and from the point-slope formula.	D. Find and correct errors when writing the equation of a line given its graph or point-slope formula from an authentic task. Explain errors and corrections. Justify the process if no error exists.	D. Write the equation of a line in slope- intercept form given its graph from an authentic task. AND D. Write an equation of a line in slope- intercept form from an authentic task applying point-slope formula.	D. Write an equation in slope-intercept form given the graph of a line. AND D. Write the slope- intercept form of an equation given point-slope form.	D. Identify the slope and y- intercept given the graph. AND D. Show partial understanding of simplification procedure when converting from point-slope form.	D. Not yet able to write an equation of a line from its graph or applying the point- slope formula from information.
CA-A2-LF.E. Use graphs of lines to identify solutions to linear equations.	E. Find and correct errors when finding a solution to a linear equation from its graph. Explain errors and corrections. Justify the process if no error exists.	E. Find and interpret solutions to a linear equation from an authentic task using its graph.	E. Find the solutions to a linear equation from an authentic task using its graph.	E. Find the solutions to a linear equation using its graph.	E. Not yet able to find solutions to a linear equation using its graph.
CA-A2-LF.F. Solve linear inequalities, expressing the solutions sets using interval notation and graphing solution sets on number lines, and interpret their solutions in context.	F. Find and correct errors to a linear inequality from an authentic task including writing solution in interval and graph. Explain errors and corrections. Justify the process if no error exists.	F. Solve and graph a linear inequality from an authentic task. AND F. Interpret the solution set of a linear inequality in terms of the authentic task it represents.	F. Solve, graph a linear inequality, and write the solution in interval notation.	F. Solve a linear inequality. AND F. Graph a linear inequality (Ex. $x < 5$).	F. Not yet able to solve a linear inequality or write solution in interval notation or graph its solution.
CA-A2-LF-G Use and understand the slope criteria for parallel and perpendicular lines.	G. From standard form, write the equation of a parallel line or a perpendicular line.	G. Justify if two lines are parallel, perpendicular, or neither given information (a set of points, two lines, two equations).	G. Given a slope and a point, write the equation of a parallel line and the equation of a perpendicular line.	G. Given a slope, find the slope of a parallel line and the slope of a perpendicular line.	G. Not yet able to use or explain the relationship between slopes of parallel or perpendicular lines.
CA-A4.A. Solve applications and create models involving 2 x 2 systems of linear equations using both graphical and algebraic methods.	A. Determine and justify the best method for solving a 2X2 system from an authentic task.	A. Write and solve a 2X2 system of equations from an authentic task. Interpret the solution. (Solve both graphically and algebraically.)	A. Given a 2x2 system of equations from an authentic task, solve and interpret the solution (graphically or algebraically).	A. Identify independent and dependent variables of an authentic task. A. Solve or graph a linear equation.	A. Not yet able to write or solve a 2X2 system of equations from an authentic task.
CA-A4-B Use linear inequalities and systems of linear inequalities in two unknowns to create models.	B. Find and correct errors when writing inequality or system of inequalities from an authentic task. Explain errors and corrections. Justify process if no errors are made.	B. Write linear inequalities and systems of linear inequalities, in two unknowns, from authentic tasks.	B. Translate an authentic task into a linear inequality in two unknowns.	B. Identify independent and dependent variables of an authentic task. AND B. Interpret key phrases relating to the model.	B. Not yet able to write a linear inequality or system of linear inequalities in two unknowns.

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CA-A4.C. Graphically identify solutions sets to linear inequalities or systems of inequalities.	C. Mathematically justify and explain solutions and non-solutions to graphs and systems of linear inequalities.	C. Determine solution sets from graphs to a linear inequality and system of linear inequalities of authentic tasks.	C. Graph the solution to a system of linear inequalities with two unknowns. Justify the solution.	C. Graph a linear inequality in two unknowns. AND C. Shade the solution to a system of linear inequalities in two unknowns.	C. Not yet able to graphically determine solution sets of linear inequalities or systems of linear inequalities of authentic tasks.
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