

Grade 12 (AAS): Algebra with Probability

Algebra and Functions

Functions shift the emphasis from a point-by-point relationship between two variables (input/output) to considering an entire set of ordered pairs (where each first element is paired with exactly one second element) as an entity with its own features and characteristics.

- 1 When given a relation in table form, identify the graph that represents the relation (Ex: The points (5,5); (6,4); (3,7) are given to the student along with three graphs, and the student chooses the graph that represents the relation). [M.A.AAS.12.14](#)
- 2 Graphs can be used to obtain exact or approximate solutions of equations, inequalities, and systems of equations and inequalities – including systems of linear equations in two variables and systems of linear and quadratic equations (given or obtained by using technology). [M.A.AAS.12.15](#)
- 3 Graphs can be used to obtain exact or approximate solutions of equations, inequalities, and systems of equations and inequalities – including systems of linear equations in two variables and systems of linear and quadratic equations (given or obtained by using technology). [M.A.AAS.12.18](#)
- 4 Functions can be described by using a variety of representations: mapping diagrams, function notation (e.g., $f(x) = x^2$), recursive definitions, tables, and graphs. [M.A.AAS.12.21](#)
- 5 Functions can be described by using a variety of representations: mapping diagrams, function notation (e.g., $f(x) = x^2$), recursive definitions, tables, and graphs. [M.A.AAS.12.22](#)
- 6 Functions that are members of the same family have distinguishing attributes (structure) common to all functions within that family. [M.A.AAS.12.24](#)
- 7 Functions can be represented graphically and key features of the graphs, including zeros, intercepts, and, when relevant, rate of change and maximum/minimum values, can be associated with and interpreted in terms of the equivalent symbolic representation. [M.A.AAS.12.28](#)

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- 8 Given the graph of a linear function, identify the intercepts, the maxima, and minima. [M.A.AAS.12.30](#)

Functions model a wide variety of real situations and can help students understand the processes of making and changing assumptions, assigning variables, and finding solutions to contextual problems.

- 9 Choose the graph of the linear function that represents a solution in a real-world scenario. (Ex: Choose the graph that shows a steady increase or decrease rather than a graph with fluctuating data). [M.A.AAS.12.31](#)