

## F Functions

- **8.F.A Define, evaluate, and compare functions.**
  - **8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.**
    - [Interpret graphs of proportional relationships \(8-I.9\)](#)
    - [Identify functions \(8-Z.1\)](#)
    - [Does \(x, y\) satisfy the linear function? \(8-Z.3\)](#)
    - [Evaluate a linear function \(8-Z.8\)](#)
    - [Complete a table for a linear function \(8-Z.9\)](#)
    - [Complete a table and graph a linear function \(8-Z.10\)](#)
    - [Interpret points on the graph of a linear function \(8-Z.11\)](#)
    - [Find values using function graphs \(8-Z.21\)](#)
    - [Complete a table for a function graph \(8-Z.22\)](#)
  - **8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).**
    - [Compare linear functions: graphs and equations \(8-Z.13\) \(12\)](#)
    - [Compare linear functions: tables, graphs, and equations \(8-Z.14\)](#)
  - **8.F.A.3 Interpret the equation  $y = mx + b$  as defining a linear function whose graph is a straight line; give examples of functions that are not linear.**
    - [Graph a line from an equation in slope-intercept form \(8-Y.6\) \(84\)](#)
    - [Identify linear and nonlinear functions: graphs and equations \(8-Z.17\)](#)
    - [Identify linear and nonlinear functions: tables \(8-Z.18\)](#)
  - **Checkpoint opportunity**
    - [Checkpoint: Understand functions \(8-Z.\)](#)
    - [Checkpoint: Compare functions \(8-Z.\)](#)
    - [Checkpoint: Linear and nonlinear functions \(8-Z.\)](#)
- **8.F.B Use functions to model relationships between quantities.**
  - **8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.**
    - [Write equations for proportional relationships from tables \(8-I.2\)](#)
    - [Write equations for proportional relationships from graphs \(8-I.5\)](#)
    - [Find the slope of a graph \(8-Y.1\)](#)
    - [Find the slope from two points \(8-Y.2\)](#)
    - [Slope-intercept form: find the slope and y-intercept \(8-Y.4\)](#)
    - [Graph a line using slope \(8-Y.5\)](#)
    - [Write a linear equation from a slope and y-intercept \(8-Y.8\)](#)
    - [Write a linear equation from a graph \(8-Y.9\)](#)
    - [Write a linear equation from a slope and a point \(8-Y.10\) \(90\)](#)
    - [Write a linear equation from two points \(8-Y.11\) \(58\)](#)
    - [Constant rate of change \(8-Z.7\)](#)

- [Write a linear function from a table \(8-Z.12\)](#)
  - [Write linear functions: word problems \(8-Z.15\)](#)
- **8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.**
  - [Write linear functions: word problems \(8-Z.15\)](#)
- **Checkpoint opportunity**
  - [Checkpoint: Construct and interpret linear functions \(8-Z.\)](#)
  - [Checkpoint: Sketch and describe graphs \(8-Z.\)](#)