

## CHAPTER 6 – Linear Relations and Functions

In this chapter you will learn how to:

- Create and interpret graphs that represent different situations
- Apply characteristics of linear relations to graphing
- Determine an acceptable range of values for a situation
- Work with function notation in a variety of ways
- Work with slopes and solve problems involving rates of change

### Topics:

- 6.1 Graphs of Relations
- 6.2 Linear Relations
- 6.3 Domain and Range
- 6.4 Functions
- 6.5 Slope

### Chapter 6 Vocabulary:

Relation	Association between two quantities
Linear Relation	Relation that forms a straight line when plotted on a graph
Non-linear Relation	Relation that does not form a straight line when plotted on a graph
Discrete Data	Data Values on a graph that are not connected
Continuous Data	Data Values on a graph that are connected
Independent variable	The variable for which the values are selected (ex. Time)
Dependant Variable	The variable whose values depend on the value of the independent variable (ex. distance)
Domain	The set of all possible values for the independent variable in a relation
Range	The set of all possible values for the dependent variable in a relation
Function	Relation where each value of the independent variable is associated with exactly one value of the dependant variable
Function Notation	Symbolic notation for functions: $f(x)$ "f of x"
Vertical Line Test	If a vertical line intersects the graph at more than one point then the relation is not a function
Slope	The ratio of the vertical change (rise) to the horizontal change (run) of a line or line segment