

Homework Assignments

Chapter 5: Graphs & Functions

Homework

- Section 5-1: pgs. 238-240: 1-4, all – What story does the graph tell – in detail?; 9; 11; 12; 13; 14; 16; 18-20; 22 all
- Section 5-2: pgs. 244-245: 2-26, evens; 27-29, all; 38-40, all; 43-47, all
- Section 5-3: pgs. 249-251: 1-3, all; 6, 12, 16, 18, 32, 34, 43, all
- Section 5-4: pgs. 256-258: 1-3, all; 4-16, evens; 26-28, evens; 32
- Section 5-5: pgs. 264-266: 2-20, evens; 24, 26, 30-36, evens; 38-40, all; 48-52, evens
- Extra Credit (due day of test): Chapter Test: pg. 278: all except #27-32

Chapter Notes / Terms

Relation – Any set of ordered pairs

Function – Any solution consisting of sets of ordered pairs (domain, range) such that no member of the domain is paired with more than one member of the range [i.e. (2,3) and (2,-3)]. Visually, the graph of functions will pass the “vertical line” test or "mapping test".

Domain - The set of all x-values in a relation (Input)

Range - The set of all y-values in a relation (Output)

Mapping Test - Visual representation of a relation, placing all the x-values one time in a left column and all the y-values one time in a right column, using arrows to indicate which x value is paired with each y value. It is used to determine if the relation is also a function. Any mapping that results in a "<" opening to the right indicates a relation that is **NOT** a function.

Vertical Line Test - Visual determination of whether a graphed set of ordered pairs, taken from a given relation, is also a function. If a vertical line can pass through more than one point anywhere on the graph, then the relation fails the vertical line test and is **NOT** a function.

Direct Variation - Function rule which follows the form:

For all real values of x & y; $y = kx$, where k is the constant of variation.

Function Notation - Algebraic notation used to define a function. May appear in one of three forms:

- $y =$
 - Example: $y = 3x + 5$
- $f(x) =$
 - Example: $f(x) = 3x + 5$
- $g: x \rightarrow$
 - Example: $g: x \rightarrow 3x + 5$

* Note: All examples above would produce the same results.

Functions can be evaluated for various values of "x" [$f(3) =$, $g: 5 \rightarrow$]; have operations performed on them [$f(2) + f(3)$, $3 * g(x)$]; or be nested [$f(g(4))$].

Function Rule - An algebraic equation written in one of the three function notations that defines the relationship between the x-values and the y-values in the function.