9-5 Study Guide

Classes of Functions

Identify Equations You should be able to graph the equations of the following functions.

Function	General Equation
Constant	$y = a$
Direct Variation	$y = ax$
Identity	$y = x$
Greatest Integer	equation includes a variable within the greatest integer symbol, $[\![\,]\!]$
Absolute Value	equation includes a variable within the absolute value symbol, $\lvert\,\rvert$
Quadratic	$y = ax^2 + bx + c$, where $a \neq 0$
Square Root	equation includes a variable beneath the radical sign, $\sqrt{\ }$
Rational	$y = \frac{p(x)}{q(x)}$
Inverse Variation	$y = \frac{a}{x}$

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Classes of Functions

Identify Graphs You should be familiar with the graphs of the following functions.

Function	Description of Graph
Constant	a horizontal line that crosses the y-axis at a
Direct Variation	a line that passes through the origin and is neither horizontal nor vertical
Identity	a line that passes through the point (a, a), where a is any real number
Greatest Integer	a step function
Absolute Value	V-shaped graph
Quadratic	a parabola
Square Root	a curve that starts at a point and curves in only one direction
Rational	a graph with one or more asymptotes and/or holes
Inverse Variation	a graph with 2 curved branches and 2 asymptotes, $x = 0$ and $y = 0$ (special case of rational function)