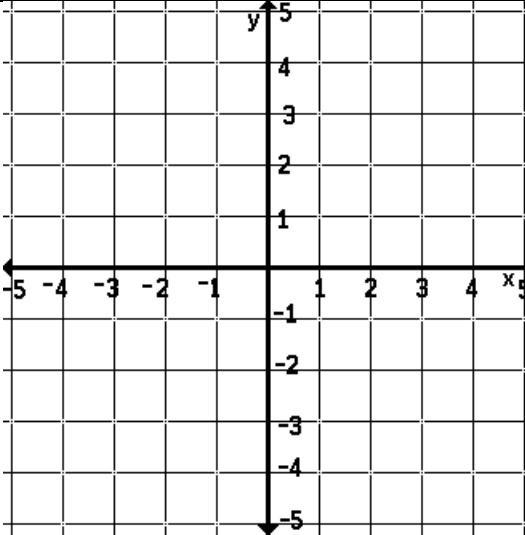
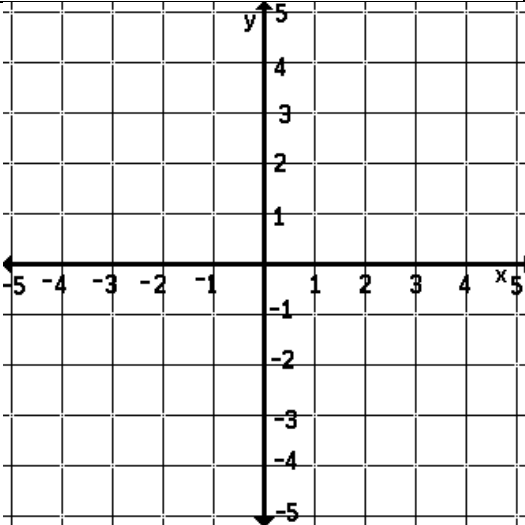
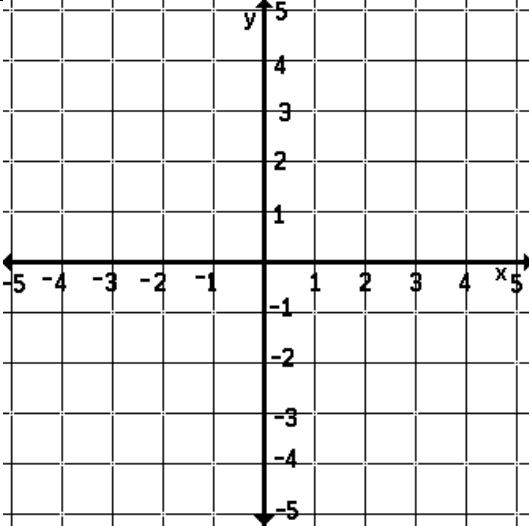
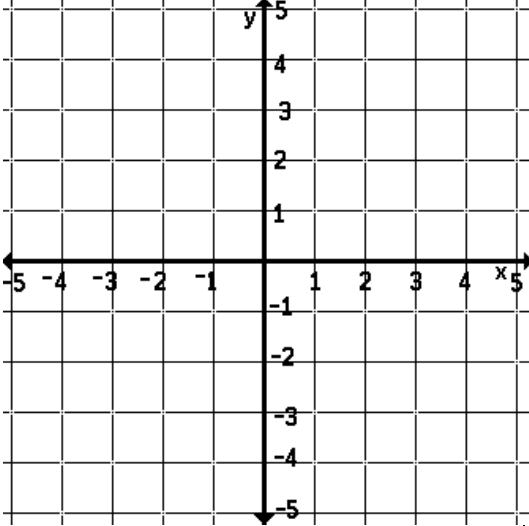
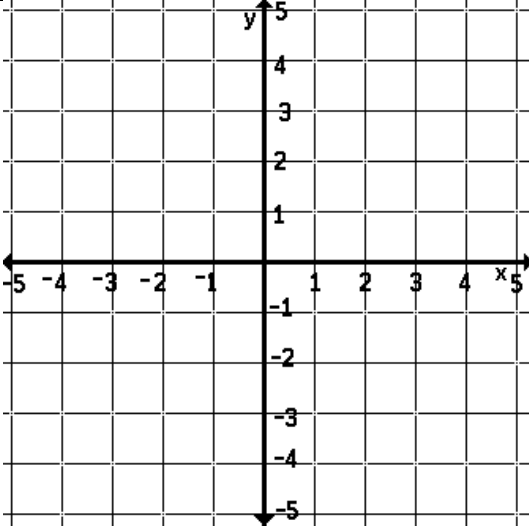
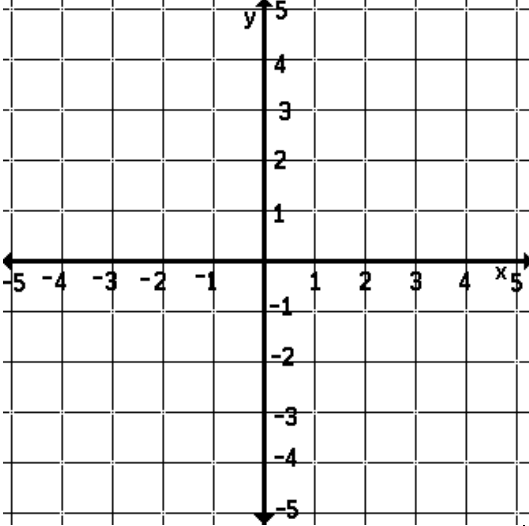


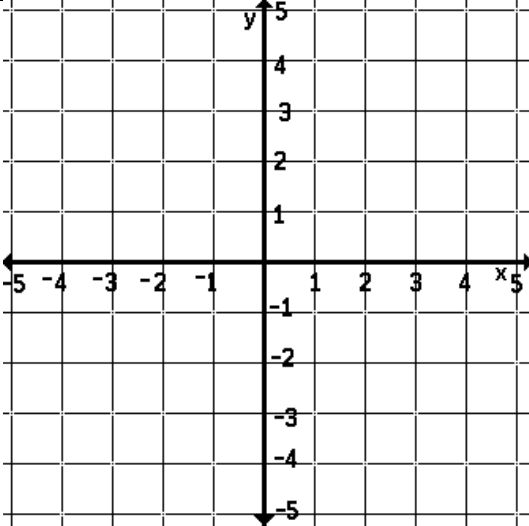
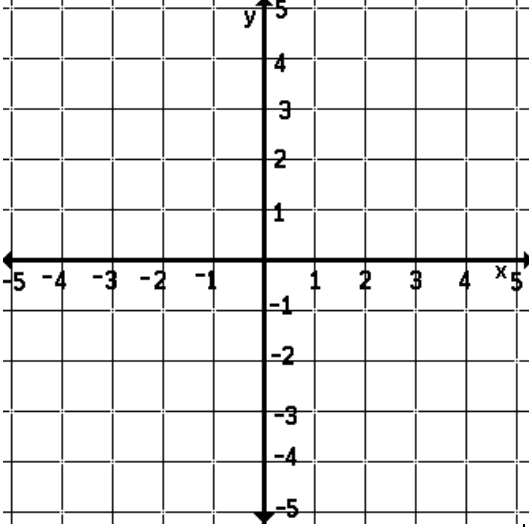
3.4 Notes: Library of Functions; Piecewise-defined Functions

Math 1050

Function	Graph	Domain	Range	Even Odd Neither	x-and y- intercepts	Intervals: Decreasing, Increasing, or Constant	Symmetry (x-axis, y- axis, or origin)	Relative or absolute Min and Max
Constant Function $f(x) = b$								
Identity Function $f(x) = x$								

Function	Graph	Domain	Range	Even Odd Neither	x-and y- intercepts	Intervals: Decreasing, Increasing, or Constant	Symmetry (x-axis, y-axis, or origin)	Relative or absolute Min and Max
Square (Quadratic) Function $f(x) = x^2$								
Cubic Function $f(x) = x^3$								

Function	Graph	Domain	Range	Even Odd Neither	x-and y- intercepts	Intervals: Decreasing, Increasing, or Constant	Symmetry (x-axis, y-axis, or origin)	Relative or absolute Min and Max
Square Root Function $f(x) = \sqrt{x}$								
Cube Root Function $f(x) = \sqrt[3]{x}$								

Function	Graph	Domain	Range	Even Odd Neither	x-and y- intercepts	Intervals: Decreasing, Increasing, or Constant	Symmetry (x-axis, y-axis, or origin)	Relative or absolute Min and Max
Reciprocal Function $f(x) = \frac{1}{x}$								
Absolute Value Function $f(x) = x $								

Function	Graph	Domain	Range	Even Odd Neither	x-and y- intercepts	Intervals: Decreasing, Increasing, or Constant	Symmetry (x-axis, y-axis, or origin)	Relative or absolute Min and Max
Greatest Integer (Step Function) $f(x) = \text{int}(x)$ <i>or</i> $f(x) = [x]$								

Piecewise-defined Function: When a function is defined using different equations on different parts of its domain.

$$f(x) = \begin{cases} -2x + 1 & \text{if } -3 \leq x < 1 \\ 2 & \text{if } x = 1 \\ x^2 & \text{if } x > 1 \end{cases}$$

a) Find $f(0)$, $f(1)$, and $f(2)$

d) Graph by hand

b) Determine the domain of f

e) Use the graph to find the range of

c) Locate any intercepts

f) Is continuous on the domain?

