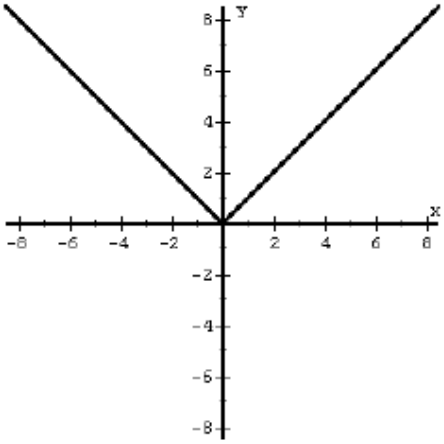
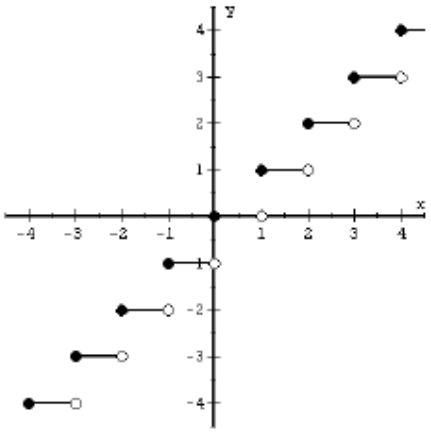
Special Functions



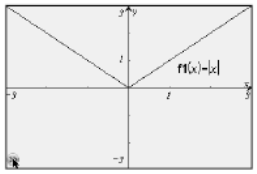
$f(x) = |x|$

Absolute Value

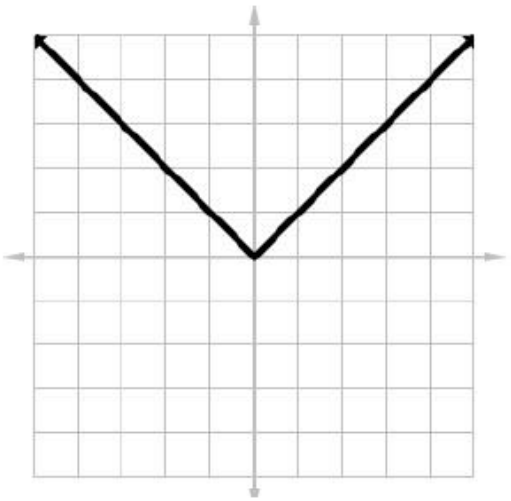


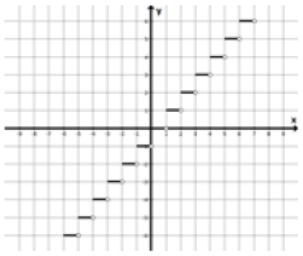
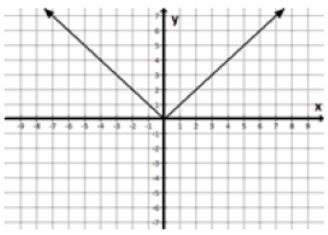
$f(x) = \text{int}(x) = [x]$

Greatest Integer

Name of Parent Function	Graph of Function	Table of Values	Equation of Parent Function	Special Features or Characteristics
Absolute Value Function		x | y -2 | 2 -1 | 1 0 | 0 1 | 1 2 | 2 3 | 3	$f(x) = \|x\|$	• Crosses the *y*-axis at (0,0) • Domain is all Real Numbers • Range is all Real Numbers ≥0

Special Functions

	Graph
$y = \|x\|$ **Absolute Value**, Even **Domain:** $(-\infty,\infty)$ **Range:** $[0,\infty)$ **End Behavior:** $x \to -\infty, y \to \infty$ $x \to \infty, y \to \infty$ **Critical points:** $(-1,1), (0,0), (1,1)$	

Parent Function	Graph	Parent Function	Graph
$y = \text{int}(x) = [x]$ **Greatest Integer,** Neither Domain: $(-\infty,\infty)$ Range: $\{y : y \in \mathbb{Z}\}$ (integers) End Behavior: $x \to -\infty,\ y \to -\infty$ $x \to \infty,\ y \to \infty$		$y = \|x\|$ **Absolute Value**, Even Domain: $(-\infty,\infty)$ Range: $[0,\infty)$ End Behavior: $x \to -\infty,\ y \to \infty$ $x \to \infty,\ y \to \infty$