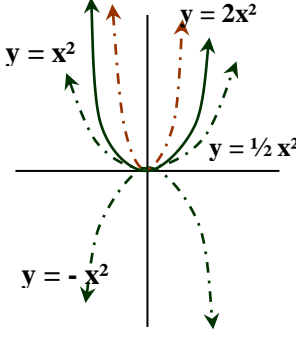
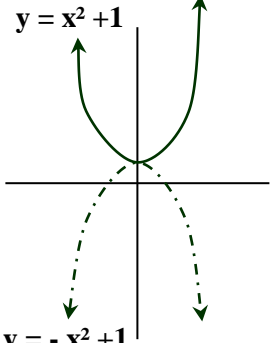
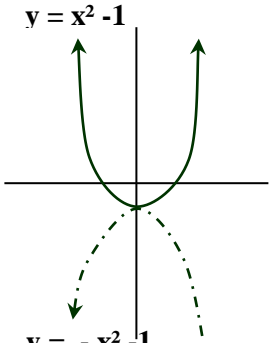
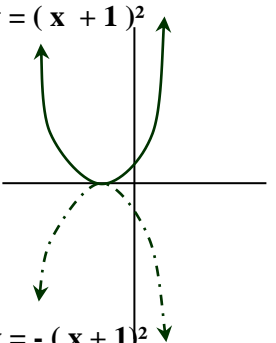
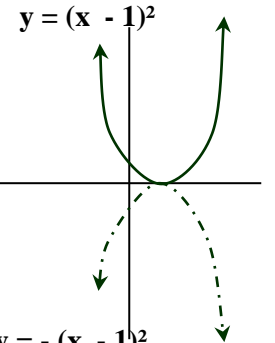
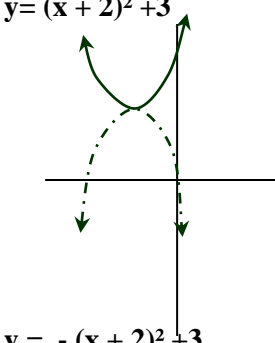
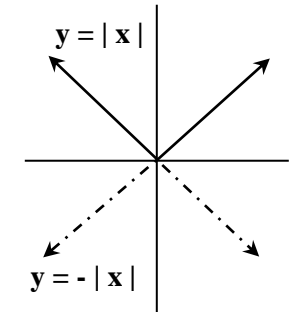
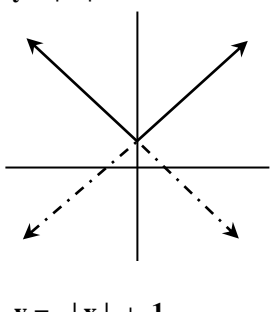
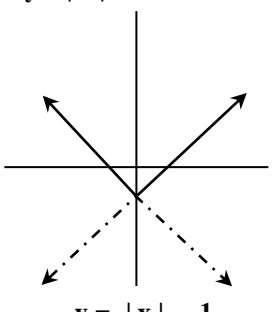
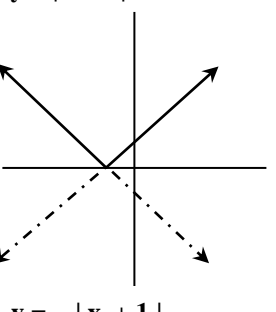
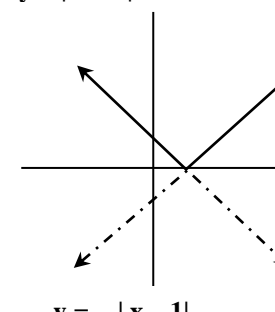
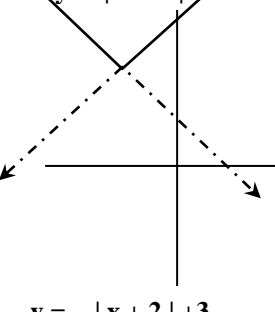
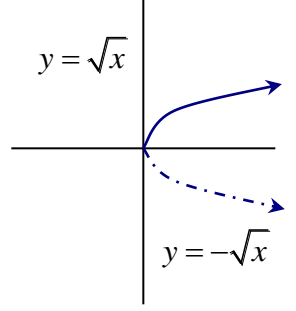
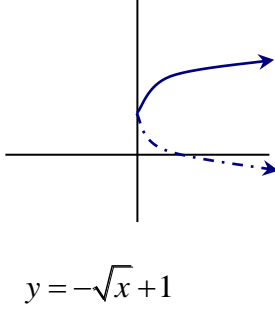
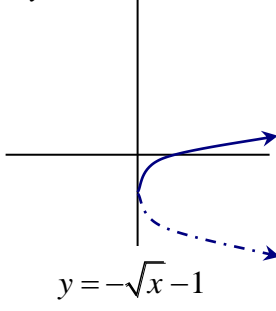
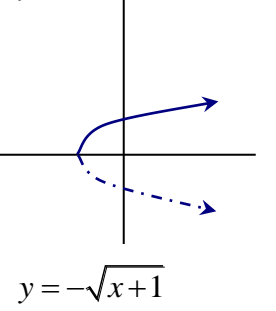
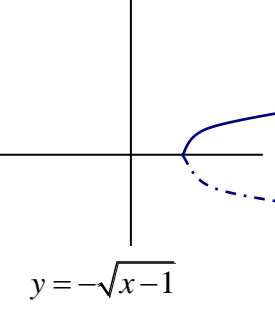
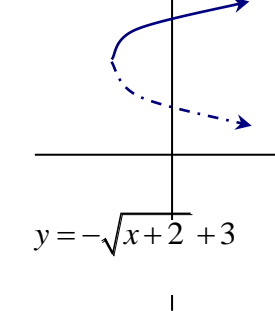


Shifting, Stretching & Reflecting Graphs

Parent Graphs	Vertical Shifts		Horizontal Shifts		Combinations
	Up one	Down one	Left one	Right one	Left two, up three
Quadratics 	$y = x^2 + 1$  $y = -x^2 + 1$	$y = x^2 - 1$  $y = -x^2 - 1$	$y = (x + 1)^2$  $y = -(x + 1)^2$	$y = (x - 1)^2$  $y = -(x - 1)^2$	$y = (x + 2)^2 + 3$  $y = -(x + 2)^2 + 3$
Absolute values 	$y = x + 1$  $y = - x + 1$	$y = x - 1$  $y = - x - 1$	$y = x + 1 $  $y = - x + 1 $	$y = x - 1 $  $y = - x - 1 $	$y = x + 2 + 3$  $y = - x + 2 + 3$
Squares roots 	$y = \sqrt{x + 1}$  $y = -\sqrt{x + 1}$	$y = \sqrt{x - 1}$  $y = -\sqrt{x - 1}$	$y = \sqrt{x + 1}$  $y = -\sqrt{x + 1}$	$y = \sqrt{x - 1}$  $y = -\sqrt{x - 1}$	$y = \sqrt{x + 2} + 3$  $y = -\sqrt{x + 2} + 3$