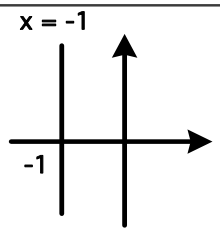
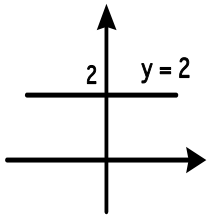
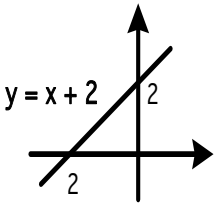
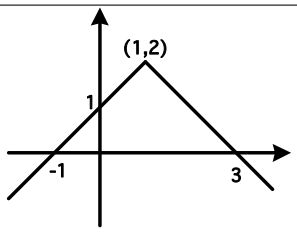
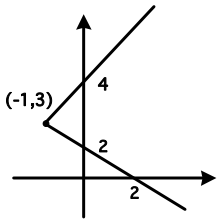
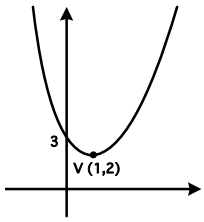
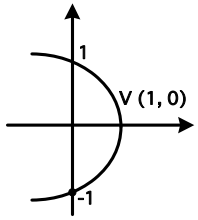
Examples On Functions And 1–1 Functions

Equation	Describtion	Graph	Function	1–1 function
$x = -1$	vertical line		X	X
$y = 2$	horizontal line		✓	X
$y = x + 2$	slant line		✓	✓
$y = -\lvert x - 1\rvert + 2$	two perpendicular half lines		✓	X
$x = \lvert y - 3\rvert - 1$	two perpendicular half lines		X	X
$y = (x-1)^2 + 2$	parabola, opens upward, V(1,2)		✓	X
$x = -y^2 + 1$	parabola, opens to the left, V(1,0)		X	X

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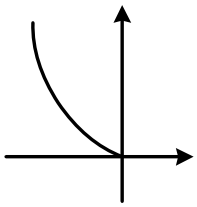
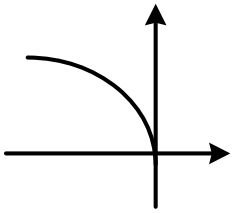
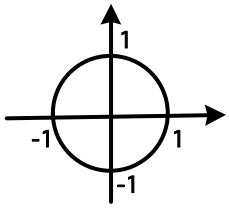
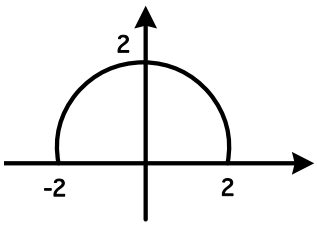
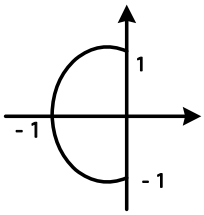
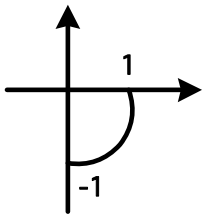
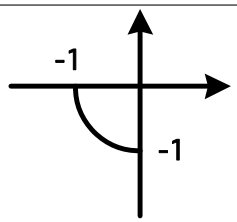
Equation	Describtion	Graph	Function	1–1 function
$y = x^2, x \leq 0$	left half of a parabola opens upward, V(0,0)		✓	✓
$x = -y^2, y \geq 0$	upper half of a parabola opens to the left, V(0,0)		✓	✓
$x^2 + y^2 = 1$	circle, C(0,0) , radius = 1		X	X
$y = \sqrt{4 - x^2}$	upper half of a circle, C(0,0) , radius = 2		✓	X
$x = -\sqrt{1 - y^2}$	left half of a circle, C(0,0) , radius = 1		X	X
$y = -\sqrt{1 - x^2}, 0 \leq x \leq 1$	right lower quarter of a circle, C(0,0) , radius = 1		✓	✓
$x = -\sqrt{1 - y^2}, -1 \leq y \leq 0$	left lower quarter of a circle, C(0,0) , radius = 1		✓	✓

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