

# Worksheet

## Domain and Range

For each of the following functions, find the domain and the range.

Function	Domain	Range
1. $y = -2(x-6)^2 + 4$		
2. $y = -\sqrt{x-3} + 6$		
3. $y = x^3 - 7$		
4. $y = -4 x+5  + 8$		
5. $y = x^2 - 6$		
6. $y = \sqrt{4-x}$		
7. $y = 4x + 12$		
8. $y = -6x^2 - 3$		
9. $y = -x^3 + 4$		
10. $y = 6 - \sqrt{x+2}$		
11. $y = -(x-3)^2 + 7$		
12. $y = -\sqrt{1-x} + 5$		

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## Domain and Range

For each of the following functions, find the domain and the range.

	Function	Domain	Range
(6,4) 	1. $y = -2(x-6)^2 + 4$ down (6,4)	$\mathbb{R}$	$y \leq 4$
(3,6) 	2. $y = -\sqrt{x-3} + 6$ (3,6) down R	$x \geq 3$	$y \leq 6$
	3. $y = x^3 - 7$	$\mathbb{R}$	$\mathbb{R}$
(-5,-8) 	4. $y = -4 x+5  + 8$ down (-5,-8)	$\mathbb{R}$	$y \leq -8$
	5. $y = x^2 - 6$ (0,-6) up	$\mathbb{R}$	$y \geq -6$
(4,0) 	6. $y = \sqrt{4-x}$ (4,0) up L	$x \leq 4$	$y \geq 0$
	7. $y = 4x + 12$	$\mathbb{R}$	$\mathbb{R}$
(0,-3) 	8. $y = -6x^2 - 3$ (0,-3) Down	$\mathbb{R}$	$y \leq -3$
	9. $y = -x^3 + 4$	$\mathbb{R}$	$\mathbb{R}$
(-2,6) 	10. $y = 6 - \sqrt{x+2}$ (-2,6) down R	$x \geq -2$	$y \leq 6$
(3,7) 	11. $y = -(x-3)^2 + 7$ down	$\mathbb{R}$	$y \leq 7$
(1,5) 	12. $y = -\sqrt{1-x} + 5$ (1,5): D, L	$x \leq 1$	$y \leq 5$