

Homework: Introduction to Functions

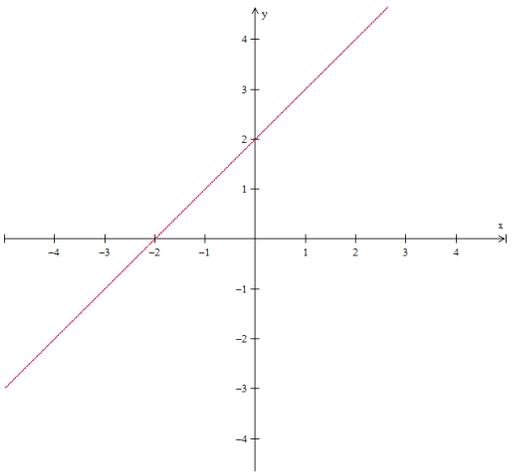
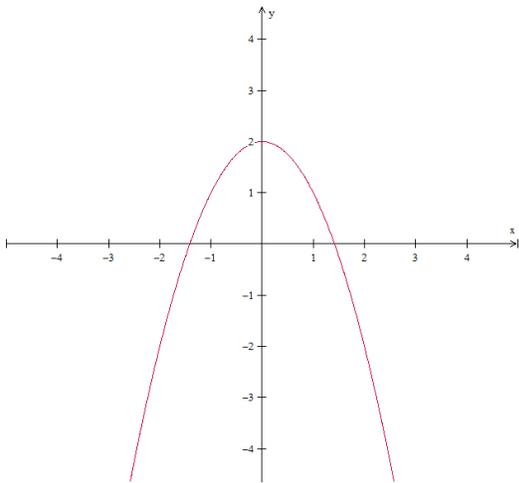
In Problems 1-3, determine whether each relation represents a function. State the domain and the range of each relation.

1. $\{(4,2), (3,1), (5,-1), (6,2)\}$	2. $\{(7,2), (7,3), (2,4), (1,5)\}$
3. $\{(-3,1), (4,1), (-1,2), (3,2)\}$	

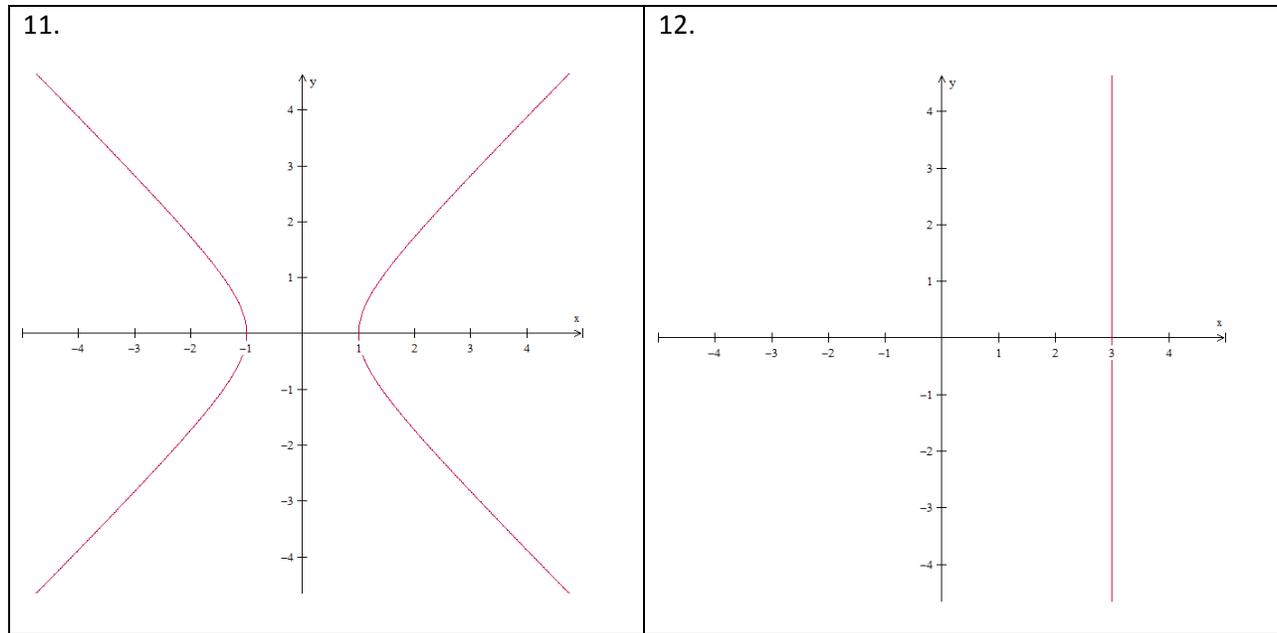
In Problems 4-8, determine whether each equation shows y as a function of x .

4. $y = 9x + 1$	5. $y = \frac{-1}{5}x - 3$
6. $y = \pm\sqrt{x}$	7. $x^2 + y^2 = 9$
8. $y = x^3 - 2$	

In Problems 9-12, determine whether the graph is that of a function.

9. 	10. 
---	---

Homework: Introduction to Functions



In Problems 13-16, find the indicated value of each function.

(a) $f(2)$ (b) $f(-1)$ (c) $f(5)$

13. $f(x) = 5x + 1$	14. $f(x) = -2x - 1$
15. $f(x) = x^2 - x + 2$	16. $f(x) = -2x^2 + 3x - 2$

In Problems 17-18, find the indicated value of each function.

(a) $f(-x)$ (b) $f(x - 3)$ (c) $f(4x)$
 (d) $-f(x)$ (e) $f(x + h)$

17. $f(x) = 4x - 2$	18. $f(x) = -x - 2$
---------------------	---------------------

In Problems 19-22, find the value of each function.

19. $f(x) = x^2 - 2; f(3)$	20. $f(x) = x^3 - 2x^2; f(-1)$
21. $f(x) = x + 5 - 2; f(-8)$	22. $f(x) = \frac{4x + 1}{5x - 3}; f(2)$