In Problems 1-5, determine whether each relation is a function. Give the domain and range for each relation

1.	2.
Function D: {2, 4, 5} R: {3, 8, 9}	Not a Function D: {1, 2} R: {3, 5, 9, 11}
3.	4.
Function D: {1, 2, 3, 5} R: {-5, 4, 8}	Function D: {5, 7, 11} R: {5, 7, 11}
5. Not a Function D: {2} R: {-5, -4, -1}	

In Problems 6-13, determine whether each equation defines y as a function of x

6. Function	7. Function
8. Not a Function	9. Not a Function
10. Function	11. Function
12. Function	13. Not a Function

In Problems 14-19, evaluate each function at the given values of the independent variable and simplify

14.	15.
$a)12 \quad b)7x-9 \quad c)-7x-2$	$a)-3 \quad b)x^2+11x+27 \quad c)x^2-3x-1$
16.	17.
$a)3 \qquad\qquad b)-24$ $c)-x^3-2x^2-4x \quad d)125b^3-50b^2+20b$	$a)-2 \quad b)-3 \quad c)\sqrt{x}-5$

18.	19.
$a) \dfrac{3}{2}$ $b)1$ $c) \dfrac{5x^2 - 2}{3x^2}$	$a)3$ $b) -3$ $c)3$

In Problems 20-24, Use the vertical line test to identify graphs in which y is a function of x

20. Function

21. Function

22. Not a Function

23. Function

24. Not a Function

In Problems 25-30, use the graph of f to find each indicated function value.

25. 2	28. 1
26. -3	29. 0
27. 1	30. 4

In Problems 31-36, use the graph to determine a) the function's domain, b) the function's range, c) the x-intercepts, and d) the y-intercept

31.
a) Domain: $(-\infty, \infty)$
b) Range: $[1, \infty)$
c) x-intercepts: None
d) y-intercept: 5 (rough guess)

32.
a) Domain: $(-\infty, \infty)$
b) Range: $(-\infty, 1]$
c) x-intercepts: 1, 3
d) y-intercept: -1

33.
a) Domain: $[0,3)$
b) Range: $[-2,1)$
c) x-intercepts: 2.4
d) y-intercept: -2

34.
a) Domain: $(-\infty, 2]$
b) Range: $[0, \infty)$
c) x-intercepts: 2
d) y-intercept: 1.3

35.
a) Domain: $[-3,4)$
b) Range: $[-1,1)$
c) x-intercepts: 0.5
d) y-intercept: -0.25

36.

a) Domain: $\left(-\infty,\infty\right)$

b) Range: $\left(-\infty,2\right]$

c) x-intercepts: 1

d) y-intercept: 1