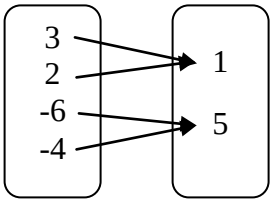
SECTION 1-1

EXERCISE A

For each of the following, determine (a) the domain, (b) the range,
(c) whether the relation is discrete or continuous, and (d) whether it represents a function (***yes*** or ***no***).

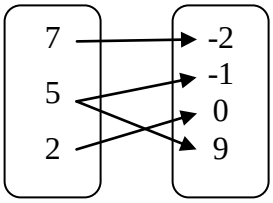
1)



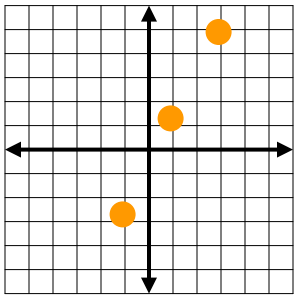
2)

x	y
-1	8
0	0
1	8

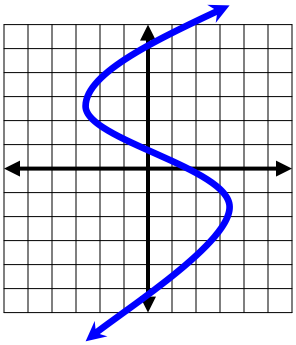
3)



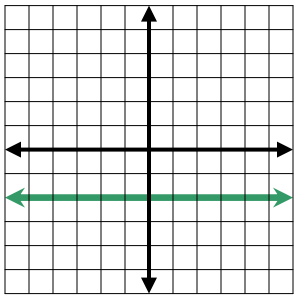
4)



5)



6)



7) Which of the following is continuous and which is discrete? Explain why.

a) { (-1, 4), (0, -5), (2, 8), (6, -11) } b) $y = 2x - 5$

Find each value for #8-15 using these two functions: $f(x) = 3x - 5$ & $g(x) = x^2 - x$

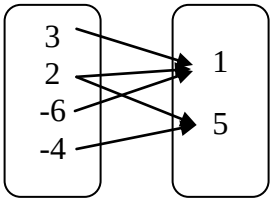
8) $f(-3)$ 9) $g(3)$ 10) $g\left(\frac{1}{3}\right)$ 11) $f\left(\frac{2}{3}\right)$

12) $f(-18)$ 13) $f(a)$ 14) $g(a^3)$ 15) $g(5n)$

EXERCISE B

For each of the following, determine (a) the domain, (b) the range, (c) whether the relation is discrete or continuous, and (d) whether it represents a function (***yes*** or ***no***).

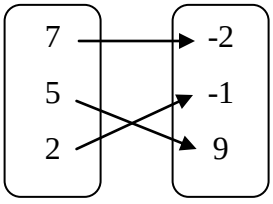
16)



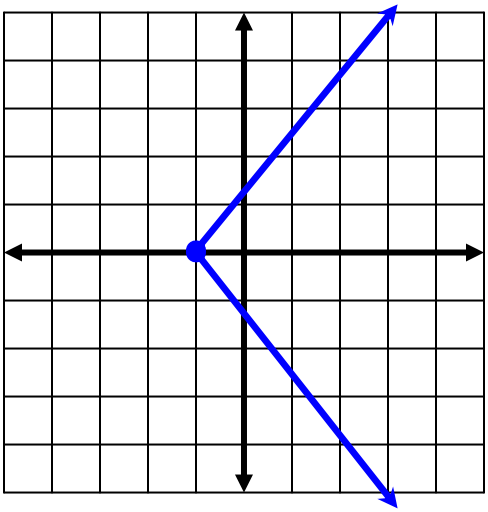
17)

x	y
-1	8
0	0
-1	-8

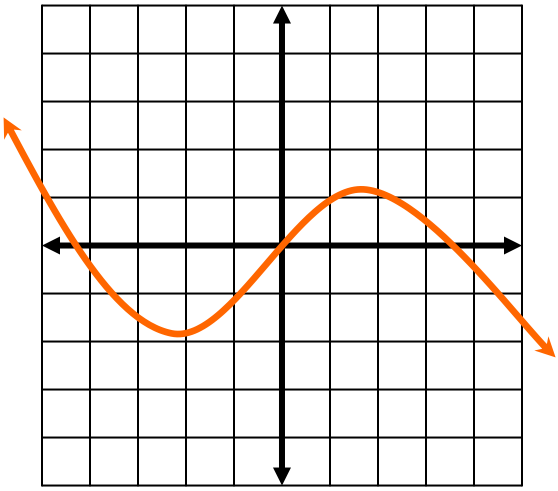
18)



19)



20)



21) Which of the following is continuous and which is discrete? Explain why.

a)

x	y
0	-9
1	-3
2	1
3	4

b) $y = \frac{3}{4}x - 7$

c) { (1, 5), (-2, 0), (16, -1) }

d) $x = 2y^2 - 3$

Find each value for #22-29 using these three functions: $f(x) = 3x - 5$ & $g(x) = x^2 - x$ & $h(x) = x^3 - 1$

22) $f(-9)$

23) $g(12)$

24) $h(-1)$

25) $f\left(\frac{4}{3}\right)$

26) $h(2a)$

27) $f(n - 5)$

28) $g(5b^2)$

29) $h\left(\frac{1}{2}\right)$

EXERCISE C

30) Reggie has a collection of 15 games on his ipad. After getting a part-time job, he decides to download 3 more games per month. The function $G(t) = 15 + 3t$ counts the number of games he has after ***t*** months. How many games will he have after 8 months? After a year and a half?

ANSWERS:

1) a. {-6, -4, 2, 3}
b. {1, 5}
c. discrete
d. yes

3) a. {2, 5, 7}
b. {-2, -1, 0, 9}
c. discrete
d. no

5) a. all real numbers
b. all real numbers
c. continuous
d. no

7) a. discrete
b. continuous

9) 6

11) -3

13) $3a - 5$

15) $25n^2 - 5n$

17) a. {-1, 0}
b. {-8, 0, 8}
c. discrete
d. no

19) a. $x \geq -1$
b. all real numbers

19) c. continuous
d. no

21) a & c. discrete
b & d continous

23) 132

25) -1

27) $3n - 20$

29) -7/8