Functions
Algebra 2

1) What is a relation?

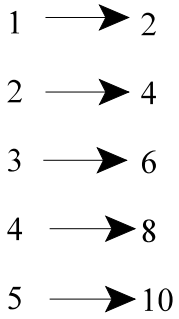
2) What is a function?

3) What is the domain of a function?

4) What is the range of a function?

Is each mapping below a relation? A function? Explain.

5)



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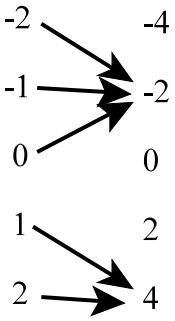

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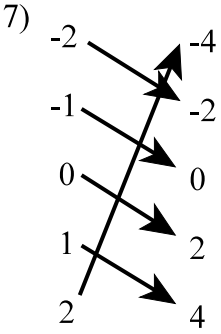

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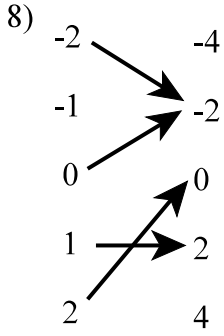


Does the t-table describe a function? Explain?

9)

Input	0	1	2	3	4
Outcome	2	2	2	2	2

10)

Input	-2	1	0	1	-2
Outcome	1	2	3	4	5

11)

Input	-2	-1	0	1	2
Outcome	3	8	-2	5	1

12)

Input	4	3	2	3	4
Outcome	4	3	2	3	4

Give the domain and range of each relation in 13 - 15.

13)

x	1	2	3	4
y	7	8	9	10

14) {(3, 5); (4, -2); (7, 3); (8, 3)}

15)

x	y
-4	-4
-5	-5
-6	-6
-7	-7

Fill in the table for each function.

16) $y = x + 2$

x	y
1	
2	
3	
4	

17) $y = 4x$

x	y
-2	
0	
1	
	12

18) $f(a) = 2a - 6$

a	f(a)
-7	
	10
0	
	4

19) $d = c^2$

c	1	2	3	4
d				

20) $f(j) = 2j^2 - j$

j	-4	-3	-2	-1
f(j)				

Are the following relationships functions? If so, give the domain.

21) {(5, -1); (4, 2); (6, 0); (4, -1)}

22) {(-1, 3); (2, 0); (-4, 2)}

23) {(-10, 6); (-3, 2); (4, 1); (11, -3)}

Which sets of ordered pairs represent functions from A to B? Explain.

A = {-2, -1, 0 1, 2}; B = {1, 2, 3, 4, 5}

24) {(-2, 1); (-1, 2); (0, 3); (1, 4)}

25) {(2, 3); (1, 2); (0, 1); (-1, 5); (-2, 4)}

26) {(1, 4); (2, 0); (0, 2); (-1, 3); (2, 5)}

27) {(-2, 2); (-1, 2); (0, 3); (1, 3); (2, 3)}

Match the set of values to the function that produces the set.

28)

x	y
0	2
2	6
3	8
5	12

29)

x	y
0	2
3	5
6	8
7	9

30)

x	y
1	1
2	2
3	3
4	4

31)

x	y
1	1
4	2
9	3
16	4

A. $y = x + 2$

B. $y = 2x + 2$

C. $y = \sqrt{x}$

D. $y = x^2$

E. $y = x$

Evaluate the following functions for f(1), f(-2), f(3x), and f(x - 1).

32) $f(x) = x + 2$

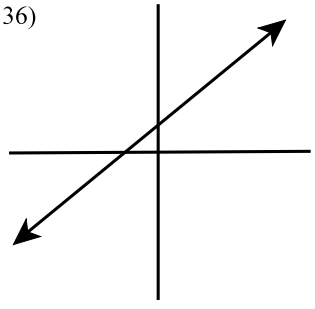
33) $f(x) = 3x - 4$

34) $f(x) = x^2 + 5x - 6$

35) $f(x) = 2x^2 - x + 4$

Are the relations graphed below functions?

36)



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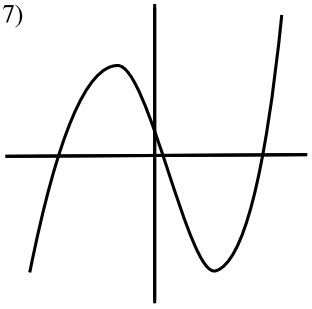

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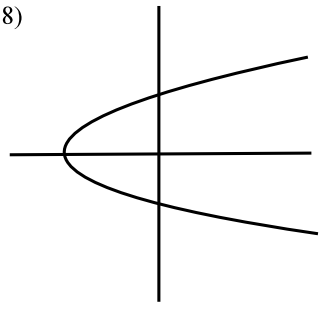

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