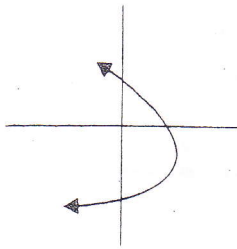


Name: Key

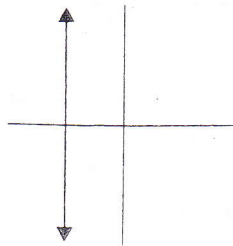
Use the vertical line test to determine whether or not the graph represents a function. Write yes or no. Write linear under the line if it represents a linear function.

1.



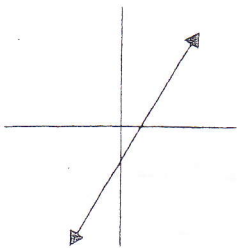
NO

5.



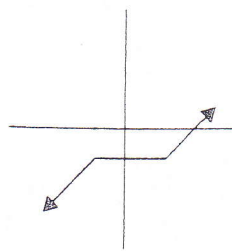
NO

2.



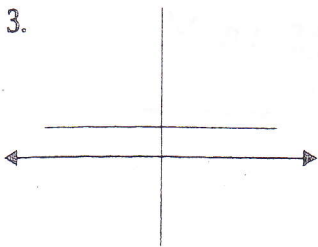
Yes
Linear

6.



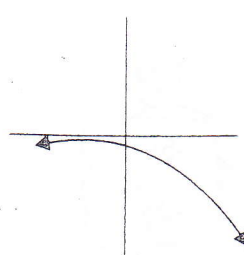
Yes

3.



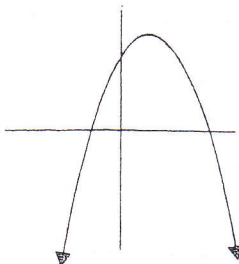
Yes
Linear

7.



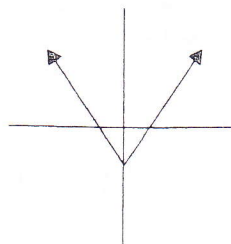
Yes

4.



Yes

8.



Yes

Determine whether each relation is a function.
Provide a reason if the answer is no.

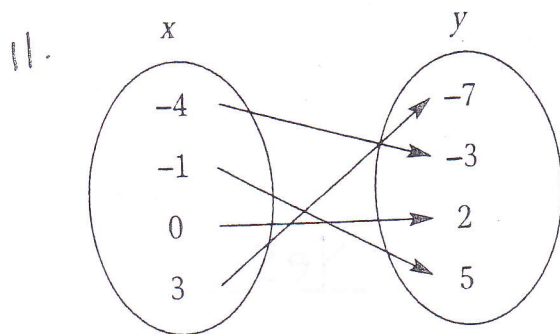
9.

x	1	2	1	2
y	3	4	5	6

No - 1 & 2 repeat in x

10. $(10, 5), (8, 3), (1, -2), (-4, 5), (6, 0)$

yes

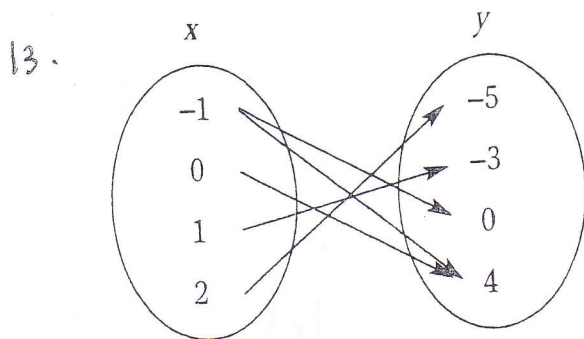


yes

12.

x	2	4	6	8
y	4	3	2	4

yes



NO - -1 repeats in x

14. $(3, -2), (4, -1), (5, -2), (6, -6)$

yes

State the domain and range for the following relations.

15. $\{(3,-2)(-1,5)(2,4)(3,6)(-5,0)\}$

domain: $\{3,-1,2,3,-5\}$

range: $\{-2,5,4,6,0\}$

16. $\{(0,1)(1,0)(3,-2)(7,1)(5,-6)\}$

domain: $\{0,1,3,-1,5\}$

range: $\{1,0,-2,1,-6\}$

17. $\{(-5,10)(4,6)(-3,-1)(2,6)\}$

domain: $\{-5,4,-3,2\}$

range: $\{10,6,-1,6\}$

Create a function table to find the range.

18. $y = -4x$ for the domain $\{-3,-2,-1,0,1\}$

x	-4x	y	(x,y)
-3	-4(-3)	12	(-3,12)
-2	-4(-2)	8	(-2,8)
-1	-4(-1)	4	(-1,4)
0	-4(0)	0	(0,0)
1	-4(1)	-4	(1,-4)

range: $\{12,8,4,0,-4\}$

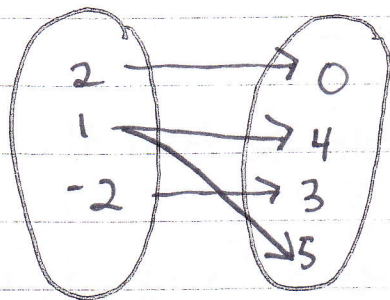
19. $y = 5x + 3$ for the domain $\{0, 1, 2, 3, 4\}$

x	$5x + 3$	y	(x, y)
0	$5(0) + 3$	3	(0, 3)
1	$5(1) + 3$	8	(1, 8)
2	$5(2) + 3$	13	(2, 13)
3	$5(3) + 3$	18	(3, 18)
4	$5(4) + 3$	23	(4, 23)

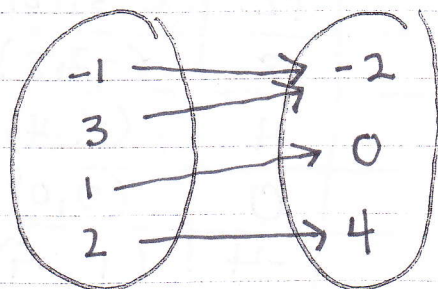
range:

Express the relation as a mapping.

20. $\{(2, 0), (1, 4), (-2, 3), (1, 5)\}$



21. $\{(7, -2), (3, -2), (1, 0), (2, 4)\}$



Express the relation as a t-table

22. $\{(2,1)(-2,2)(3,4)(5,-1)\}$

X	Y
2	1
-2	2
3	4
5	-1

23. $\{(4,0)(0,4)(2,-5)(3,-6)(1,-8)\}$

X	Y
4	0
0	4
2	-5
3	-6
1	-8

24. $\{(5,1)(0,2)(-3,-1)(-4,-6)(5,8)\}$

X	Y
5	1
0	2
-3	-1
-4	-6
5	8

Name the independent variable and the dependent variable.

25. A car rental store charges \$160.00 per day.
ind: # of days
dep: total cost

26. A babysitter charges \$10.00 per hour.
ind: # of hours
dep: total cost

27. An arcade charges \$0.75 per video game.
ind: # of games
dep: total cost

Determine whether the equation represents a linear function. Write yes or no.

28. $y = x^2 + 2x - 3$ no

29. $r + \frac{5}{r} = 3s$ no

30. $2l + 2w = 54$ yes

31. $3ab + 7 = b$ no

32. $4x + 11y = 25$ yes

33. $y = \frac{2}{x} + 5$ no

34. $y^2 = x - 5$ yes

35. $x = -10$ no