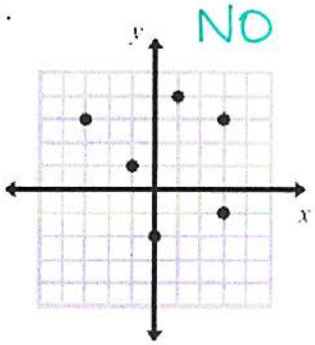
Function Notation and Evaluating Functions Practice Worksheet B

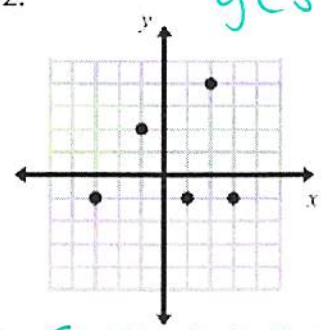
Name Key Class Period

Decide whether the graph represents y as a function of x. If it is a function, give the domain and range.

1. NO

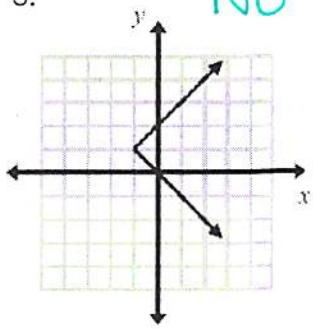


2. yes

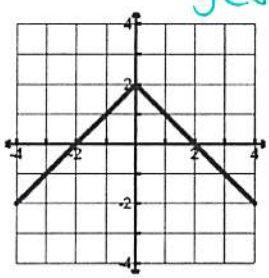


D: {-3, -1, 1, 2, 3}
R: {-1, 2, 4}

3. NO

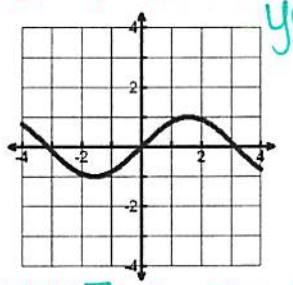


4. yes



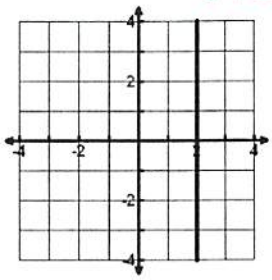
D: [-4, 4] R: [-2, 2]

5. yes



D: [-4, 4] R: [-1, 1]

6. NO



Decide whether the relation is a function.
If it is a function, give the domain and the range.

7.

Input	Output
1	7
	-7
2	8
	-8

NO

8. yes

Input	Output
3	2
5	4
7	6

D: {3, 5, 7}
R: {2, 4}

9. yes

Input	Output
0	-6
2	-4
4	-2
6	0

D: {0, 2, 4, 6}
R: {-6, -4, -2, 0}

Evaluate the function when $x = 3$, $x = 0$, and $x = -2$. (3 answers for each problem)

10. $f(x) = 2x - 5$

$f(3) = 6 - 5 = \boxed{1}$

$f(0) = 0 - 5 = \boxed{-5}$

$f(-2) = -4 - 5 = \boxed{-9}$

11. $h(x) = 6x + 2$

$h(3) = 18 + 2 = \boxed{20}$

$h(0) = 0 + 2 = \boxed{2}$

$h(-2) = -12 + 2 = \boxed{-10}$

12. $g(x) = 2.4x$

$g(3) = 2.4(3) = \boxed{7.2}$

$g(0) = \boxed{0}$

$g(-2) = 2.4(-2) = \boxed{-4.8}$

13. $f(x) = 2x^2 - 3$

$f(3) = 18 - 3 = \boxed{15}$

$f(0) = 0 - 3 = \boxed{-3}$

$f(-2) = 8 - 3 = \boxed{5}$

14. $h(x) = x^3 - 4x$

$h(3) = 27 - 12 = \boxed{15}$

$h(0) = \boxed{0}$

$h(-2) = -8 + 8 = \boxed{0}$

15. $f(x) = (x+2)^2 - 6$

$f(3) = 25 - 6 = \boxed{19}$

$f(0) = 4 - 6 = \boxed{-2}$

$f(-2) = 0 - 6 = \boxed{-6}$

If $f(x) = 2x - 3$, $g(x) = x^3 - 2$, and $h(x) = x^2 - 3x + 5$, find each of the following:

16. f(4) = $2(4) - 3$ $= 8 - 3 = \boxed{5}$

17. h(-3) = $9 + 9 + 5$ $= \boxed{23}$

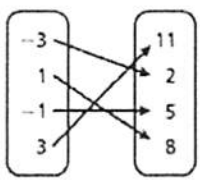
18. g(-2) = $-8 - 2 = \boxed{-10}$

19. **Extension:** h(g(2)) = $h(6) = 36 - 18 + 5 = 18 + 5 = \boxed{23}$

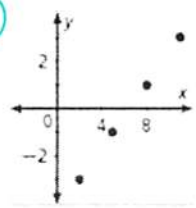
$g(2) = 8 - 2 = 6$

20. Which is NOT a correct way to describe the function $\{(-3, 2), (1, 8), (-1, 5), (3, 11)\}$?

(F)



(G)



(H) Domain: $\{-3, 1, -1, 3\}$

Range: $\{2, 8, 5, 11\}$

(J)

x	y
-3	2
-1	5
1	8
3	11

21. Use the table to answer the following:

x	-3	-1	0	1	3
y	5	7	9	11	13

a. Express the relation as ordered pairs.

$(-3,5), (-1,7), (0,9), (1,11), (3,13)$

b. Give the domain and range of the relation.

D: $\{-3, -1, 0, 1, 3\}$ R: $\{5, 7, 9, 11, 13\}$

c. Does the relation represent a function? Explain.

yes, for each x-value there is exactly one y-value.