

Section 2.7 – Sets, Relations and Functions

Problem Set 1

Take the given relation and rewrite it using the given method. Specify whether the relation is also a function.

1. $f(x) = 4x - 2$ for $x = 1, 4, 7$ as a list.
2. $(3/4, 6), (7, -2), (8, 6), (5, -4)$ as a table.
3. The following table as a diagram

x	y or $f(x)$
6	7
-5	1
4	8
-2	2

4. $y = 3x \cdot x \cdot x + 2$ for $x = -3, -2, 0, 1, 3$ as a diagram.
5. $f(x) = -x$ for $x = -2, 4, 7$ as a table.

Given each function, find the specified values.

6. If $f: x \rightarrow x + 10$ what is $f(8)$?
7. If $f: x \rightarrow x / 3 - 6$ what are $f(1)$ and $f(-4)$?
8. If $g: x \rightarrow x + 4x$ what are $g(3)$ and $g(-3)$?
9. If $h(x) = x \cdot x + 3 / x$ what are $h(0)$ and $h(1)$?
10. If $h(x) = (-2x + 3) / x$ what are $h(-3)$ and $h(-2)$?

Given each function and its domain, find the function's range.

11. $f: x \rightarrow x - 3, D = \{ 1, 7, 8, 9 \}$
12. $f: x \rightarrow (x - 4) / x, D = \{ -3, 3, 4 \}$
13. $g: x \rightarrow (x \cdot x - 3x) / 5, D = \{ -4, 5, 13 \}$