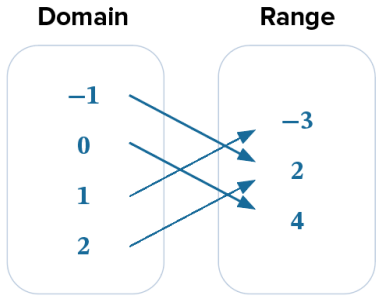
1.
domain: {−4, 1, 2, 4, 6}
range: {−3, 1,2 }

2.
domain: {−1, 0, 1, 2}
range: {−3, 2, 4}

3.
Relation *R*

x	y
−4	2
1	2
2	−3
4	−3
6	1

4.
Relation *M*



5.
$f(x) = -3x + 5$

6.
$f(x) = \frac{1}{2}x - 11$

7.
(miles driven, gas used); The gas used depends on the miles drive.

8.
(time exercising, calories burned); The calories burned depends on the time spent exercising.

9.
This relation is not a function because the domain has elements that repeat.

10.
This relation is a function because each element of the domain maps to one element in the range.

11.
This is a function because it passes the vertical line test (VLT).

12.
This is a function because it passes the vertical line test (VLT).

13.
$f(5) = -2(5) - 1 = -11$
$f(-2) = -2(-2) - 1 = 3$

14.

x	$g(x)$	work
−1	$\frac{7}{4}$	$g(-1) = \frac{1}{4}(-1) + 2 = \frac{7}{4}$
0	2	$g(0) = \frac{1}{4}(0) + 2 = 2$
2	$\frac{5}{2}$	$g(2) = \frac{1}{4}(2) + 2 = \frac{5}{2}$
4	3	$g(4) = \frac{1}{4}(4) + 2 = 3$

15.
(minute, feet) or (m, f)
$f(m) = \{700, 1{,}960, 3{,}150\}$
$f(10) = 70(10) = 700$ ft
$f(28) = 70(28) = 1{,}960$ ft
$f(45) = 70(45) = 3{,}150$ ft

16.
$f(m) = 70m$
$f(20) = 70(20) = 1{,}400$
70 multiplied by 20 is 1,400, not 1,300. Therefore (20, 1,300) is not a solution for this function.