

1.6 Answers

GCSE Mathematics Functions I

1.6.1 Solutions to 1.4 Exercise

Answer 1

(i)	17	(ii)	21	(iii)	25
(iv)	13	(v)	53	(vi)	5

[3 marks]

Only integers may be used as inputs

[1 mark]

Answer 2

(i)	0.5	(ii)	0.5	(iii)	8
(iv)	50	(v)	0	(vi)	4.5

[3 marks]

An integer squared can not be negative

[1 mark]

Answer 3

(i)	17	(ii)	9	(iii)	16
(iv)	7	(v)	27	(vi)	18

[3 marks]

Domain restricted to avoid trying to take the square root of a negative number.

[1 mark]

Answer 4

(i)	17	(ii)	11	(iii)	32
(iv)	41	(v)	5	(vi)	- 1

[3 marks]

Answer 5

(i)	2	(ii)	10	(iii)	14
(iv)	- 12	(v)	26	(vi)	9

[3 marks]

Answer 6

(i)	2	(ii)	1	(iii)	0.5
(iv)	- 3	(v)	60	(vi)	- 60

[3 marks]

Domain is restricted to avoid division by zero, which has no meaning in mathematics.

[1 mark]

Answer 7

(i)	1	(ii)	3	(iii)	5
(iv)	7	(v)	2	(vi)	0

[3 marks]**Answer 8**

(i)	7	(ii)	7	(iii)	19
(iv)	19	(v)	103	(vi)	103

[3 marks]**Answer 9**

(i)	4	(ii)	− 1	(iii)	64
(iv)	229	(v)	20 299	(vi)	− 2

[3 marks]**Answer 10**

(i)	49	(ii)	20	(iii)	− 2
(iv)	3	(v)	90	(vi)	5

[3 marks]**Answer 11**

$$M(x) = 3x + 1$$

[3 marks]**Answer 12**

$$N(x) = x^2 - 1$$

[3 marks]**NOTE:**

$$f (input\ number) = output\ number$$

The set of numbers allowed into f is termed the **domain**

The set of numbers that can come out of f is termed the **range**