Domain and Range - Ordered pairs

A) Find the domain and range of each relation.

1) {(1, –1), (2, –3), (0, 5), (–1, 3), (4, –5), (–1, 5), (4, –4)}

Domain : _____

Range : _____

2) {(3, –2), (–8, –7), (0, 6), (–3, 4), (6, –3), (–1, 6), (5, –3)}

Domain : _____

Range : _____

3) {(10, –5), (–16, –8), (15, 9), (–4, 19), (6, –7)}

Domain : _____

Range : _____

4) {(5, –4), (7, –9), (0, 9), (–12 , 3), (9, 4), (–6, –3), (8, 2)}

Domain : _____

Range : _____

5) {(17, –9), (10, –5), (8, 3), (8, 4), (6, –14)}

Domain : _____

Range : _____

6) {(5, 5), (3, 8), (5, 4), (7, 5), (13, 8), (6, 2)}

Domain : _____

Range : _____

7) {(19, 12), (11, 5), (2, 2), (–4, 16), (6, 5), (–2, 1), (3, –3)}

Domain : _____

Range : _____

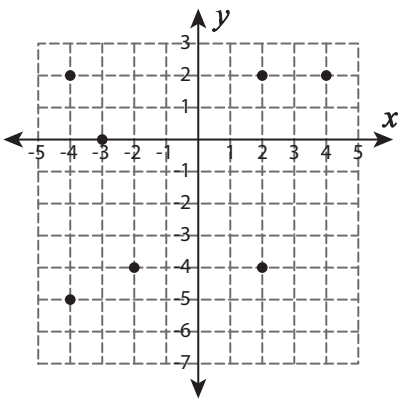
8) {(3, –2), (–3, –2), (1, 4), (–6, 5), (1, 3), (–20, 7)}

Domain : _____

Range : _____

B) Find the domain and range of ordered pairs represented on the graph.

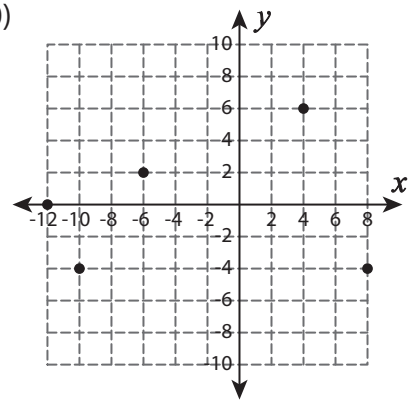
9)



Domain : _____

Range : _____

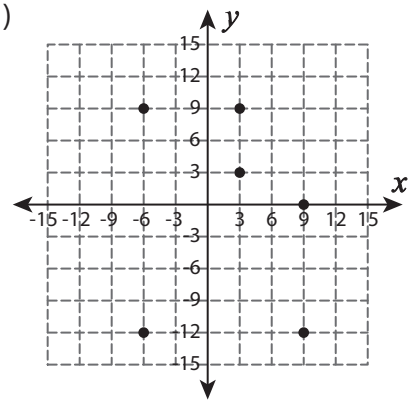
10)



Domain : _____

Range : _____

11)



Domain : _____

Range : _____

Answer key

Domain and Range - Ordered pairs

A) Find the domain and range of each relation.

1) {(1, –1), (2, –3), (0, 5), (–1, 3), (4, –5), (–1, 5), (4, –4)}

Domain : **{–1, 0, 1, 2, 4}**

Range : **{–5, –4, –3, –1, 3, 5}**

2) {(3, –2), (–8, –7), (0, 6), (–3, 4), (6, –3), (–1, 6), (5, –3)}

Domain : **{–8, –3, –1, 0, 3, 5, 6}**

Range : **{–7, –3, –2, 4, 6}**

3) {(10, –5), (–16, –8), (15, 9), (–4, 19), (6, –7)}

Domain : **{–16, –4, 6, 10, 15}**

Range : **{–8, –7, –5, 9, 19}**

4) {(5, –4), (7, –9), (0, 9), (–12 , 3), (9, 4), (–6, –3), (8, 2)}

Domain : **{–12, –6, 0, 5, 7, 8, 9}**

Range : **{–9, –4, –3, 2, 3, 4, 9}**

5) {(17, –9), (10, –5), (8, 3), (8, 4), (6, –14)}

Domain : **{6, 8, 10, 17}**

Range : **{–14, –9, –5, 3, 4}**

6) {(5, 5), (3, 8), (5, 4), (7, 5), (13, 8), (6, 2)}

Domain : **{3, 5, 6, 7, 13}**

Range : **{2, 4, 5, 8}**

7) {(19, 12), (11, 5), (2, 2), (–4, 16), (6, 5), (–2, 1), (3, –3)}

Domain : **{–4, –2, 2, 3, 6, 11, 19}**

Range : **{–3, 1, 2, 5, 12, 16}**

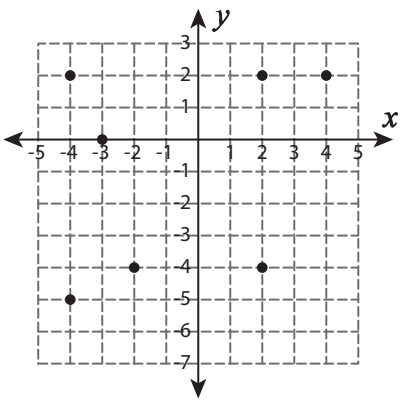
8) {(3, –2), (–3, –2), (1, 4), (–6, 5), (1, 3), (–20, 7)}

Domain : **{–20, –6, –3, 1, 3}**

Range : **{–2, 3, 4, 5, 7}**

B) Find the domain and range of ordered pairs represented on the graph.

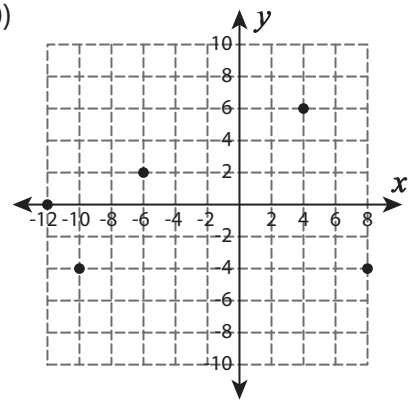
9)



Domain : **{–4, –3, –2, 2, 4}**

Range : **{–5, –4, 0, 2}**

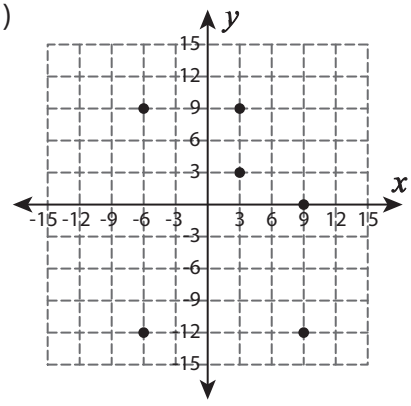
10)



Domain : **{–12, –10, –6, 4, 8}**

Range : **{–4, 0, 2, 6}**

11)



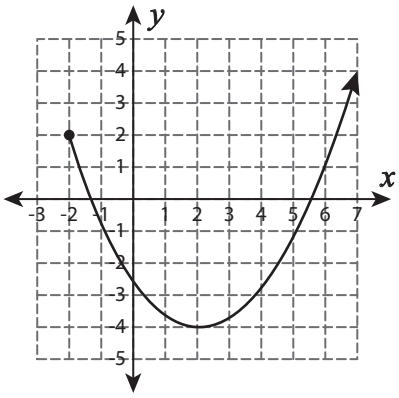
Domain : **{–6, 3, 9}**

Range : **{–12, 0, 3, 9}**

Domain and Range - Graph

Find the domain and range of each graph.

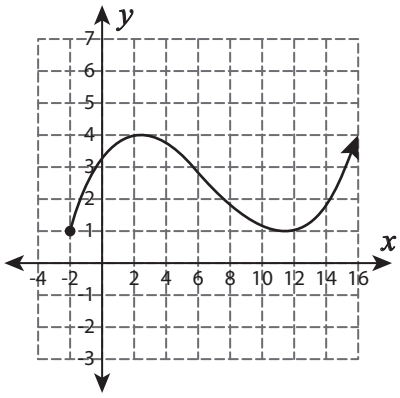
1)



Domain : _____

Range : _____

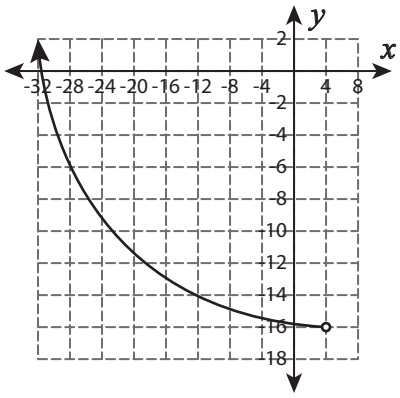
2)



Domain : _____

Range : _____

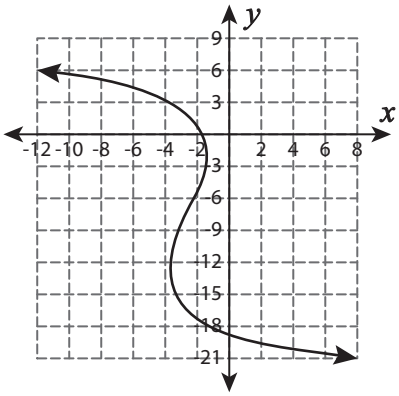
3)



Domain : _____

Range : _____

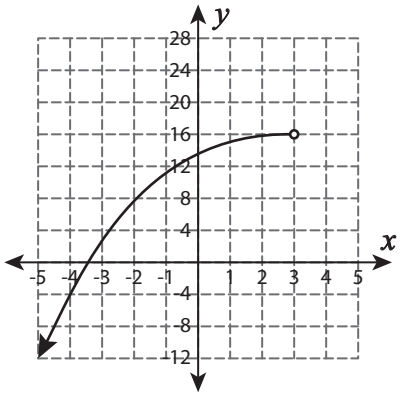
4)



Domain : _____

Range : _____

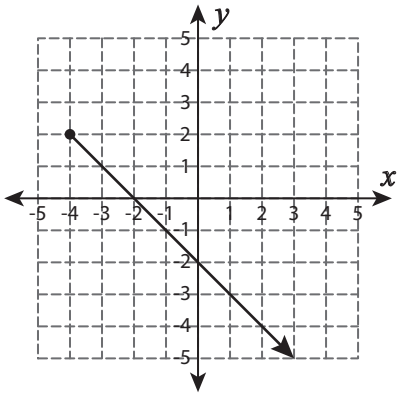
5)



Domain : _____

Range : _____

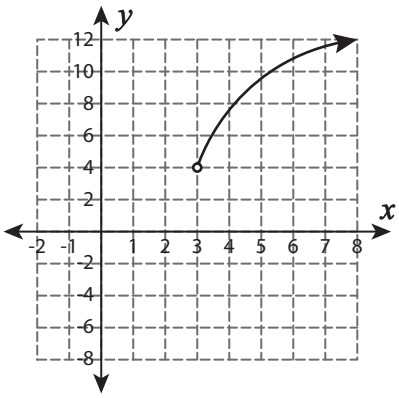
6)



Domain : _____

Range : _____

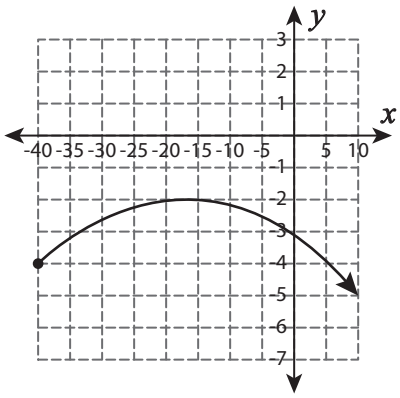
7)



Domain : _____

Range : _____

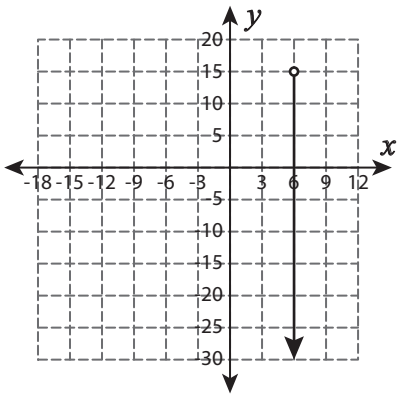
8)



Domain : _____

Range : _____

9)



Domain : _____

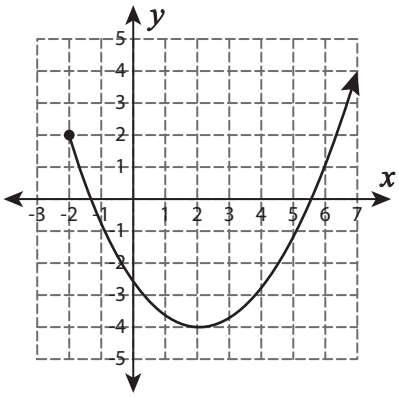
Range : _____

Answer key

Domain and Range - Graph

Find the domain and range of each graph.

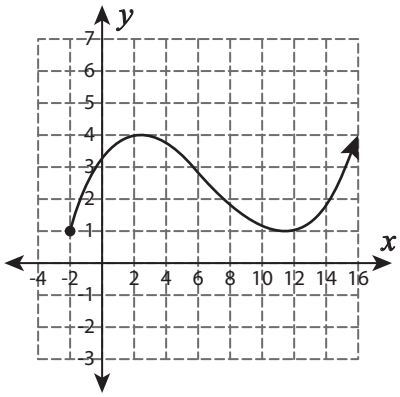
1)



Domain : [–2, ∞)

Range : [–4, ∞)

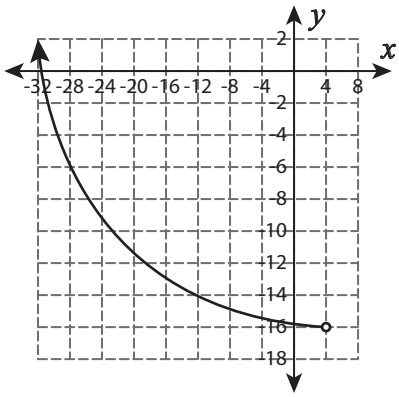
2)



Domain : [–2, ∞)

Range : [1, ∞)

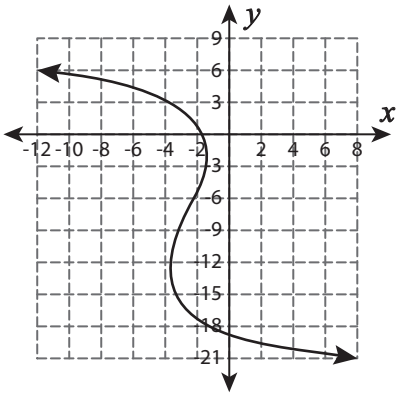
3)



Domain : (–∞, 4)

Range : (–16, ∞)

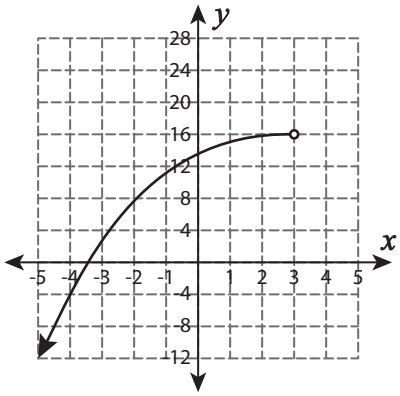
4)



Domain : (–∞, ∞)

Range : (–∞, ∞)

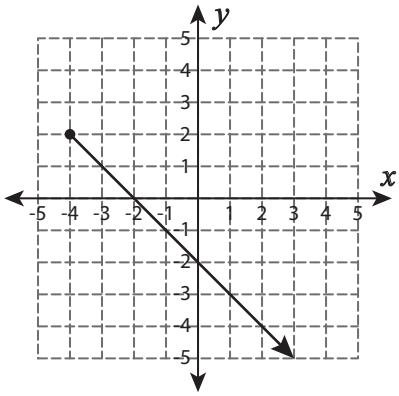
5)



Domain : (–∞, 3)

Range : (–∞, 16)

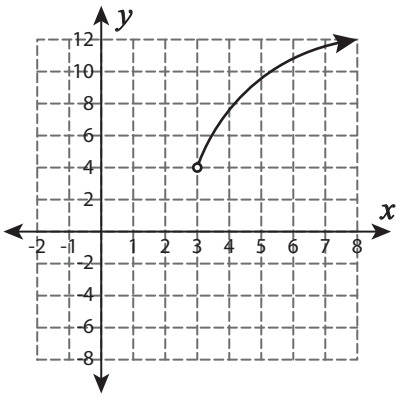
6)



Domain : [–4, ∞)

Range : (–∞, 2]

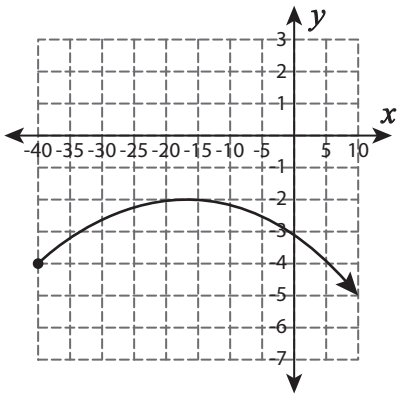
7)



Domain : (3, ∞)

Range : (4, ∞)

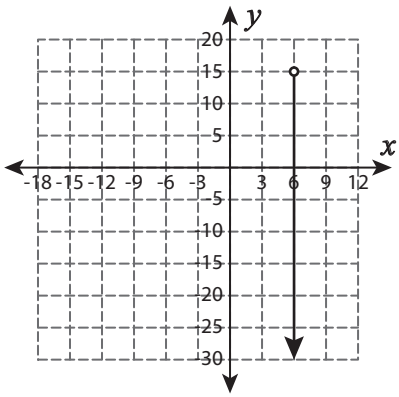
8)



Domain : [–40, ∞)

Range : (–∞, –2]

9)



Domain : {6}

Range : (–∞, 15)

Domain and Range - Function

Write the range of each function for the given domain.

1) $f(x) = 3 + 2x$; Domain = {–13, –3, 6, 10, 13, 18}

Range : _____

2) $f(x) = \frac{x}{4} - 38$; Domain = {–20, –12, 0, 8, 16}

Range : _____

3) $f(x) = -5x + 1$; Domain = {–15, –11, –4, –2}

Range : _____

4) $f(x) = -85 - 7x$; Domain = {–19, –14, 2}

Range : _____

5) $f(x) = 5 - \frac{3}{7}x$; Domain = {–7, 0, 14}

Range : _____

6) $f(x) = x + 9$; Domain = {–18, –10, –9, 0, 7, 20}

Range : _____

7) $f(x) = \frac{3x - 2}{5}$; Domain = {–6, –1, 4, 9, 19}

Range : _____

8) $f(x) = 6x - 27$; Domain = {–5, 3, 15, 17}

Range : _____

9) $f(x) = -4x - 3$; Domain = {–17, –16, –8, 12}

Range : _____

10) $f(x) = \frac{-1 - x}{2}$; Domain = {1, 5, 9, 11, 15, 19}

Range : _____

Answer key

Domain and Range - Function

Write the range of each function for the given domain.

1) $f(x) = 3 + 2x$; Domain = {–13, –3, 6, 10, 13, 18}

Range : **{–23, –3, 15, 23, 29, 39}**

2) $f(x) = \frac{x}{4} - 38$; Domain = {–20, –12, 0, 8, 16}

Range : **{–43, –41, –38, –36, –34}**

3) $f(x) = -5x + 1$; Domain = {–15, –11, –4, –2}

Range : **{76, 56, 21, 11}**

4) $f(x) = -85 - 7x$; Domain = {–19, –14, 2}

Range : **{48, 13, –99}**

5) $f(x) = 5 - \frac{3}{7}x$; Domain = {–7, 0, 14}

Range : **{8, 5, –1}**

6) $f(x) = x + 9$; Domain = {–18, –10, –9, 0, 7, 20}

Range : **{–9, –1, 0, 9, 16, 29}**

7) $f(x) = \frac{3x - 2}{5}$; Domain = {–6, –1, 4, 9, 19}

Range : **{–4, –1, 2, 5, 11}**

8) $f(x) = 6x - 27$; Domain = {–5, 3, 15, 17}

Range : **{–57, –9, 63, 75}**

9) $f(x) = -4x - 3$; Domain = {–17, –16, –8, 12}

Range : **{65, 61, 29, –51}**

10) $f(x) = \frac{-1 - x}{2}$; Domain = {1, 5, 9, 11, 15, 19}

Range : **{–1, –3, –5, –6, –8, –10}**

Domain and Range - Table

Find the domain and range of each relation.

1)

x	y
–7	12
–4	9
–2	–11
8	17
10	6
19	–5

Domain : _____

Range : _____

2)

x	y
–19	16
–6	4
1	–3
2	8
15	9
18	–20

Domain : _____

Range : _____

3)

x	y
–17	–5
–13	6
–9	–4
–3	13
12	–5
20	1

Domain : _____

Range : _____

4)

x	y
3	14
5	8
7	–2
11	8
13	0
15	–18

Domain : _____

Range : _____

5)

x	y
–13	2
–10	8
–8	3
12	–9
16	7
18	–2

Domain : _____

Range : _____

6)

x	y
–18	11
–16	11
–10	11
–8	11
3	11
7	11

Domain : _____

Range : _____

Answer key

Domain and Range - Table

Find the domain and range of each relation.

1)

x	y
–7	12
–4	9
–2	–11
8	17
10	6
19	–5

Domain : {–7, –4, –2, 8, 10, 19}

Range : {–11, –5, 6, 9, 12, 17}

2)

x	y
–19	16
–6	4
1	–3
2	8
15	9
18	–20

Domain : {–19, –6, 1, 2, 15, 18}

Range : {–20, –3, 4, 8, 9, 16}

3)

x	y
–17	–5
–13	6
–9	–4
–3	13
12	–5
20	1

Domain : {–17, –13, –9, –3, 12, 20}

Range : {–5, –4, 1, 6, 13}

4)

x	y
3	14
5	8
7	–2
11	8
13	0
15	–18

Domain : {3, 5, 7, 11, 13, 15}

Range : {–18, –2, 0, 8, 14}

5)

x	y
–13	2
–10	8
–8	3
12	–9
16	7
18	–2

Domain : {–13, –10, –8, 12, 16, 18}

Range : {–9, –2, 2, 3, 7, 8}

6)

x	y
–18	11
–16	11
–10	11
–8	11
3	11
7	11

Domain : {–18, –16, –10, –8, 3, 7}

Range : {11}

Functions - Ordered Pairs

A) State whether each set of ordered pairs represents a function.

1) {(10, 9), (–2, –16), (–6, 7), (5, 8), (8, –16), (–11, 9)}

2) {(–7, 4), (–8, 3), (–7, 7), (–20, 8), (5, 9), (3, 1), (2, 6)}

3) {(–13, 4), (7, –15), (–13, 9), (6, –12), (–18, 0)}

4) {(15, –3), (–6, 9), (–3, 0), (–1, 16)}

5) {(–4, 3), (5, –9), (11, 4), (9, 6), (5, –3), (8, –9), (1, 4)}

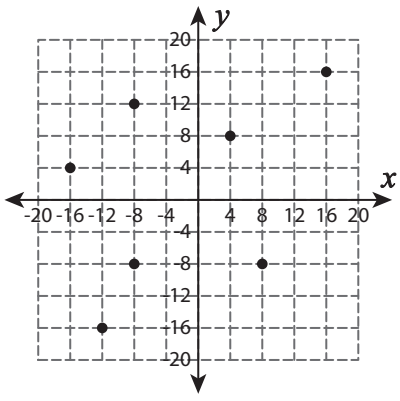
6) {(12, –18), (15, 1), (12, 5), (0, 9), (–5, –17)}

7) {(6, 0), (–12, –16), (–6, 10), (20, –7)}

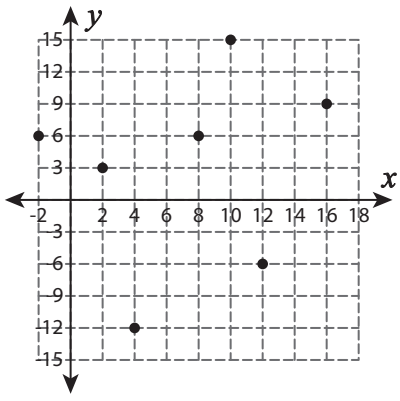
8) {(–2, –4), (–8, 3), (–7, –4), (–2, –8), (11, 8), (9, –4)}

B) State whether each set of ordered pairs on the graph represents a function.

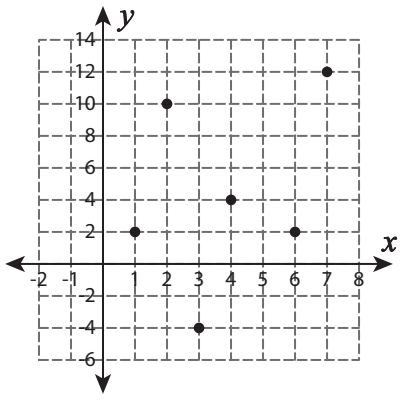
1)



2)



3)



Answer key

Functions - Ordered Pairs

A) State whether each set of ordered pairs represents a function.

1) {(10, 9), (–2, –16), (–6, 7), (5, 8), (8, –16), (–11, 9)}

Yes

2) {(–7, 4), (–8, 3), (–7, 7), (–20, 8), (5, 9), (3, 1), (2, 6)}

No

3) {(–13, 4), (7, –15), (–13, 9), (6, –12), (–18, 0)}

No

4) {(15, –3), (–6, 9), (–3, 0), (–1, 16)}

Yes

5) {(–4, 3), (5, –9), (11, 4), (9, 6), (5, –3), (8, –9), (1, 4)}

No

6) {(12, –18), (15, 1), (12, 5), (0, 9), (–5, –17)}

No

7) {(6, 0), (–12, –16), (–6, 10), (20, –7)}

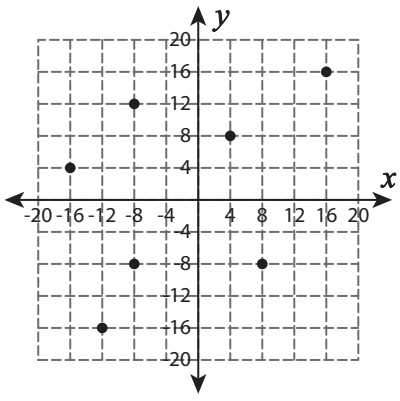
Yes

8) {(–2, –4), (–8, 3), (–7, –4), (–2, –8), (11, 8), (9, –4)}

No

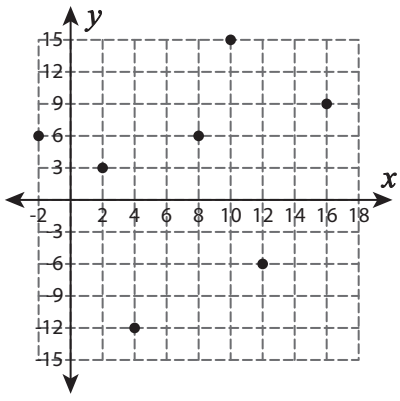
B) State whether each set of ordered pairs on the graph represents a function.

1)



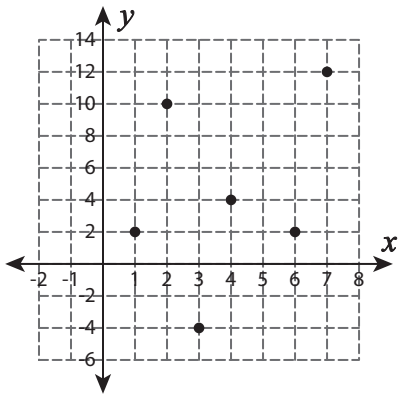
No

2)



Yes

3)



Yes

Functions - Table

State whether each table of values represents a function.

1)

x	y
–12	2
–10	10
0	–2
5	–6
8	–11
15	–15

2)

x	y
9	–18
–20	0
–6	1
–17	16
9	17
11	19

3)

x	y
4	–20
1	–17
4	–14
16	5
10	0
–19	–16

4)

x	y
–15	18
–11	18
–14	18
–9	18
–1	18
–5	18

5)

x	y
2	15
3	12
6	–4
7	–1
18	–4
20	–8

6)

x	y
–13	–3
–3	7
12	–13
17	8
–3	14
0	–19

Answer key

Functions - Table

State whether each table of values represents a function.

1)

x	y
−12	2
−10	10
0	−2
5	−6
8	−11
15	−15

Yes

2)

x	y
9	−18
−20	0
−6	1
−17	16
9	17
11	19

No

3)

x	y
4	−20
1	−17
4	−14
16	5
10	0
−19	−16

No

4)

x	y
−15	18
−11	18
−14	18
−9	18
−1	18
−5	18

Yes

5)

x	y
2	15
3	12
6	−4
7	−1
18	−4
20	−8

Yes

6)

x	y
−13	−3
−3	7
12	−13
17	8
−3	14
0	−19

No

Composition of Two Functions

A) If $f(x) = x + 1$, $g(x) = 5x^2$ and $h(x) = -6$, find the following.

1) $g(f(x))$

2) $f(h(x))$

B) If $f(x) = 7$, $g(x) = 2x$ and $h(x) = -3x - 8$, find the following.

1) $(f \circ g)(x)$

2) $(h \circ g)(x)$

C) If $f(x) = 8x - 1$, $g(x) = x$, find the following.

1) $(g \circ f)(x)$

2) $(f \circ g)(x)$

3) Is $(f \circ g)(x) = (g \circ f)(x)$?

D) 1) If $f(x) = -x + 15$ and $g(x) = 2x^2 + 9$, which of the following represents $f(g(x))$?

i) $-2x^2 + 6$ ii) $-2x - 24$ iii) $2x + 24$ iv) $-2x^2 - 6$

2) If $g(x) = 6x$ and $h(x) = 10$, which of the following represents $(g \circ h)(x)$?

i) $10x$ ii) 60 iii) $6x$ iv) 36

Answer key

Composition of Two Functions

A) If $f(x) = x + 1$, $g(x) = 5x^2$ and $h(x) = -6$, find the following.

1) $g(f(x))$

$5x^2 + 10x + 5$

2) $f(h(x))$

-5

B) If $f(x) = 7$, $g(x) = 2x$ and $h(x) = -3x - 8$, find the following.

1) $(f \circ g)(x)$

7

2) $(h \circ g)(x)$

$-6x - 8$

C) If $f(x) = 8x - 1$, $g(x) = x$, find the following.

1) $(g \circ f)(x)$

$8x - 1$

2) $(f \circ g)(x)$

$8x - 1$

3) Is $(f \circ g)(x) = (g \circ f)(x)$?

True

D) 1) If $f(x) = -x + 15$ and $g(x) = 2x^2 + 9$, which of the following represents $f(g(x))$?

i) $-2x^2 + 6$ ✓ ii) $-2x - 24$ iii) $2x + 24$ iv) $-2x^2 - 6$

2) If $g(x) = 6x$ and $h(x) = 10$, which of the following represents $(g \circ h)(x)$?

i) $10x$ ii) 60 ✓ iii) $6x$ iv) 36