Unit 1 Objective 2 Remediation

Determining a Function given Ordered Pairs

A **function** is a pairing between two sets of numbers in which each element of the first set is paired with exactly one element of the second set.

Examples

1. $\{(2,3),\ (3,4),\ (4,5),\ (5,6)\}$ is a **function** because each first element (*x*-coordinate or input) is paired with a different second element (*y*-coordinate or output).

2. $\{(2,3),\ (3,4),\ (4,5),\ (3,6)\}$ is **not a function** because the first element 3 is paired with 4 and also with 6. In order to have a function, 3 can only be paired with one second element.

Try These

Determine if the following relations are functions.

1. $\{(4,3),\ (-2,10),\ (5,-6),\ (10,7)\}$ 1. _____
2. $\{(-3,-6),\ (-5,10),\ (-1,2),\ (0,0)\}$ 2. _____
3. $\{(2,7),\ (3,7),\ (5,7),\ (6,7)\}$ 3. _____
4. $\{(7,2),\ (7,3),\ (7,4),\ (7,5)\}$ 4. _____
5. $\{(-5,3),\ (6,5),\ (3,2),\ (10,3)\}$ 5. _____
6. $\{(6,4),\ (-5,2),\ (6,7),\ (-8,8)\}$ 6. _____
7. $\{(11,5),\ (2,7),\ (-3,8),\ (-3,10)\}$ 7. _____
8. $\{(9,4),\ (3,2),\ (-6,4),\ (8,7)\}$ 8. _____
9. $\{(-7,4),\ (8,12),\ (9,12),\ (6,13)\}$ 9. _____
10. $\{(8,6),\ (-5,2),\ (0,6),\ (-5,1)\}$ 10. _____

Determining a Function given a Table

Examples

1.

x	y
1	–4
5	–3
8	–2
9	–2

This is a **function** because each first element (x-coordinate or input) is paired with a different second element (y-coordinate or output).

2.

x	y
–7	0
–8	–1
–9	2
–7	–3

This is **not a function** because the first element –7 is paired with 0 and also with –3. In order to have a function, –7 can only be paired with one second element.

Try These

Determine if the following relations are functions.

1.

x	y
1	6
1	–6
2	8
2	–8

2.

x	y
1	4
2	4
3	4
4	4

3.

x	y
–4	2
–4	3
–4	4
–4	5

4.

x	y
3	2
5	4
7	5
3	7

5.

x	y
0	–5
2	6
9	–3
5	0

6.

x	y
0	–6
–2	–4
4	–2
–6	–2