Functions

Function: a relation in which each element of the domain is paired with exactly one element of the range

If the domain is being repeated, then the relation is not a function.

Vertical line test: helps to determine whether a graph is a function or not

Practice Exercises

Determine the kind of relation and whether the relation is a function or a mere relation.

A. Ordered Pairs

1. {(2, 1), (5, 1), (3, 1), (1, 1)}
2. {(0, 0), (1, -1), (-2, 2), (3, -3), (4, 4)}
3. {(1, 1), (1, -1), (3, 0), (1, -4), (1, 4)}
4. {(1, -2), (1, 3), (-2, 5), (-1, 2), (0, 6)}

B. Table

1.

x	-5	-3	0	3	5
y	-1	-1	-1	-1	-1

2.

x	-1	-1	-1	-1	-1
y	-10	-5	0	5	10

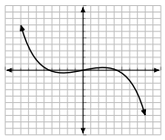
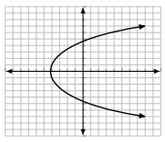
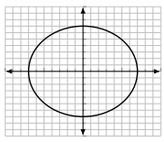
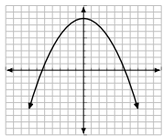
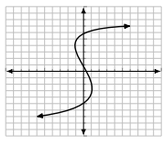
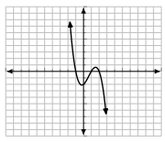
3.

x	-2	-1	0	1	2
y	2	4	6	8	10

4.

x	-2	-1	0	1	2
y	0	1	3	0	3

C. Graph

1. 
2. 
3. 
4. 
5. 
6. 

Problem Set

Determine the kind of relation and whether the relation is a function or a mere relation.

A. Ordered Pairs

1. {(3, 2), (4, 2), (5, 1), (6, 1)}
2. {(0, 0), (-1, 1), (2, -2), (-3, 3)}
3. {(2, 2), (2, -2), (4, 0), (2, -3), (2, 3)}
4. {(2, -1), (1, 0), (0, 1), (-1, 2), (-2, 3)}
5. {(2, 4), (1, 2), (0, 0), (-1, 2), (-2, 4)}

B. Table

1.

x	-4	-2	0	2	4
y	1	1	1	1	1

2.

x	-2	-1	0	-1	-2
y	-4	-2	0	2	4

3.

x	-2	-1	0	1	2
y	3	4	5	6	7

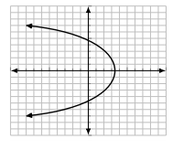
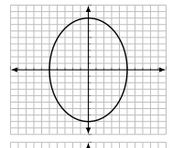
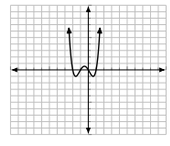
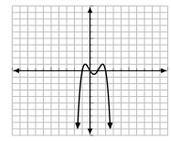
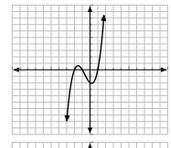
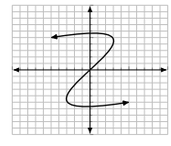
4.

x	-3	-1	0	-1	-3
y	3	5	7	9	11

5.

x	-2	-1	0	1	2
y	0	1	2	3	4

C. Graph

1. 
2. 
3. 
4. 
5. 
6. 

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Practice Exercises

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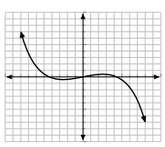
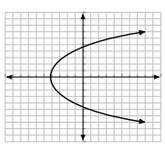
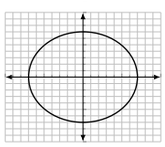
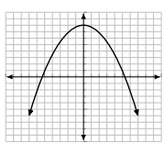
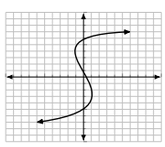
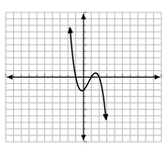
C. Graph

1. 
2. 
3. 
4. 
5. 
6. 

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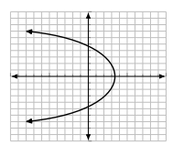
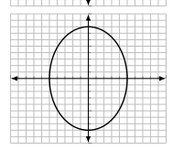
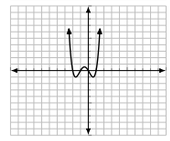
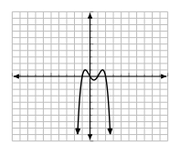
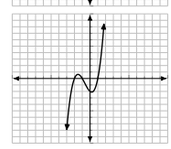
1. 
2. 
3. 
4. 
5. 
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