

## FUNCTIONS 1: QUIZ SOLUTIONS

### Question 1

Determine if the relation given by the following table is a one-to-one function, a many-to-one function, or not a function.

<b>x</b>	-2	-1	0	1	2	3
<b>y</b>	0,5	0	1	2	4	8

### Solution

Each x-value is linked to one and only one y-value. This is a one-to-one function.

### Question 2

Determine if the relation given by the ordered pairs  $(x; y)$  that satisfy the equation  $y = x^2 + 1$  is a one-to-one function, a many-to-one function, or not a function.

### Solution

Each x-value is related to one and only one y-value. Different x-values (e.g., -1 and 1) are linked to the same y-value (2). This is a many-to-one function.

### Question 3

Determine if the relation given by the ordered pairs  $(x; y)$  that satisfy the equation  $y = 3^x$  is a one-to-one function, a many-to-one function, or not a function.

### Solution

For each x-value, there is one and only one y-value. This is a one-to-one function.

### Question 4

Determine if the relation given by the set of ordered pairs

$$\{(4; 2), (4; -2), (1; 1), (1; -1), (0; 0)\}$$

is a one-to-one function, a many-to-one function, or not a function.

### Solution

One x-value is linked to more than one y-value. This is not a function.

### Question 5

Determine if the relation given by the set of ordered pairs

$$\{(1; 3), (0; 3), (-1; 1), (-2; 1)\}$$

is a one-to-one function, a many-to-one function, or not a function.

### Solution

Each x-value is related to one and only one y-value. Different x-values (e.g., 1 and 0) are linked to the same y-value (3). This is a many-to-one function.