

I Can find the Input and Output for a Function Table and write an Equation that Corresponds to the Table.

## Function Tables and Equations

### REAL-WORLD EXAMPLE

A ruby threatened hummingbird beats its wings about 52 beats per second. Make a table to show how many times it beats its wings in 2 seconds, 6 seconds, and 20 seconds.

Number of Seconds ( $s$ )	$s \cdot 52$	Wing Beats ( $w$ )
2		
6		
20		
$s$		

Use the equation above to answer the following.

A ruby threatened hummingbird beats its wings for 8 seconds. How many wing beats does it beat?

A ruby threatened hummingbird beats its wings 520 times. How many seconds was the bird observed?

For each of these tables the **Input** is the value that you put in and can change. The **Output** depends on the input value.

### Got It?

Input ( $x$ )	$x - 4$	Output ( $y$ )
4		
7		
10		

Input ( $x$ )	$3x + 2$	Output ( $y$ )
5		
6		
9		

Equation

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Equation

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Write the Algebraic Equation that Corresponds to each Table.

1. 

<b>x</b>	0	2	4	6
<b>y</b>	6	8	10	12

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3. 

<b>x</b>	<b>y</b>
0	0
1	3
2	6
3	9

\_\_\_\_\_

4. 

<b>x</b>	<b>y</b>
5	1
10	2
15	3
20	4

\_\_\_\_\_

2. 

<b>x</b>	5	8	11	14
<b>y</b>	0	3	6	9

\_\_\_\_\_

Fill in the Table and then Write the Algebraic Equation

5. 

<b>x</b>	4	5	6	10
<b>y</b>	5	6		

\_\_\_\_\_

7. 

<b>x</b>	<b>y</b>
24	6
32	
48	12
60	

\_\_\_\_\_

8. 

<b>x</b>	<b>y</b>
21	15
24	18
27	
30	

\_\_\_\_\_

6. 

<b>x</b>	2	3	4	5
<b>y</b>		18		30

\_\_\_\_\_

### Some Challenges

Work backwards to determine the input given the output.

Input (x)	$x + 3$	Output (y)
		6
		15
		21

### Got It?

Input (x)	$20 + x$	Output (y)
		0
		2
		4

Input (x)	$2x - 1$	Output (y)
		1
		3
		5

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## Function Tables and Equations

### REAL-WORLD EXAMPLE

A ruby threatened hummingbird beats its wings about 52 beats per second. Make a table to show how many times it beats its wings in 2 seconds, 6 seconds, and 20 seconds.

Number of Seconds (s)	$s \cdot 52$	Wing Beats (w)
2	$2 \cdot 52$	104
6	$6 \cdot 52$	312
20	$20 \cdot 52$	1040
s	$s \cdot 52 = w$	w

Use the equation above to answer the following.

A ruby threatened hummingbird beats its wings for 8 seconds. How many wing beats does it beat?

$$s \cdot 52 = w$$

$$\begin{array}{r|l} 8 \cdot 52 & w \\ \hline 416 & w \end{array}$$

A ruby threatened hummingbird beats its wings 520 times. How many seconds was the bird observed?

$$s \cdot 52 = w$$

$$\begin{array}{r|l} s \cdot 52 & 520 \\ \hline \div 52 & \div 52 \\ \hline s & 10 \text{ seconds} \end{array}$$

For each of these tables the **Input** is the value that you put in and can change. The **Output** depends on the input value.

### Got It?

Input (x)	$x - 4$	Output (y)
4	$4 - 4$	0
7	$7 - 4$	3
10	$10 - 4$	6

Input (x)	$3x + 2$	Output (y)
5	$3 \cdot 5 + 2$	17
6	$3 \cdot 6 + 2$	20
9	$3 \cdot 9 + 2$	29

Equation

$$x - 4 = y$$

Equation

$$3x + 2 = y$$

Write the Algebraic Equation that Corresponds to each Table.

1. 

x	0	2	4	6
y	6	8	10	12

$x + 6 = y$

2. 

x	5	8	11	14
y	0	3	6	9

$x - 5 = y$

3. 

x	y
0	0
1	3
2	6
3	9

$x \cdot 3 = y$

4. 

x	y
5	1
10	2
15	3
20	4

$x \div 5 = y$

Fill in the Table and then Write the Algebraic Equation

5. 

x	4	5	6	10
y	5	6	7	11

$x + 1 = y$

7. 

x	y
24	6
32	8
48	12
60	15

$x \div 4 = y$

8. 

x	y
21	15
24	18
27	21
30	24

$x - 6 = y$

6. 

x	2	3	4	5
y	12	18	24	30

$x \cdot 6 = y$

### Some Challenges

Work backwards to determine the input given the output.

Input (x)	$x + 3$	Output (y)
3	$\square + 3 =$	6
12	$\square + 3 =$	15
18	$\square + 3 =$	21

### Got It?

Input (x)	$20 \div x$	Output (y)
None	$20 \div \square =$	0
10	$20 \div \square =$	2
5	$20 \div \square =$	4

Input (x)	$2x - 1$	Output (y)
1	$2 \cdot \square - 1 =$	1
2	$2 \cdot \square - 1 =$	3
3	$2 \cdot \square - 1 =$	5