

# Chapter 12: Functions

October 31, 2021

Start Graphing

## 1 Linear

Fill the following table.

	1	2	3	4	5	6	7	8
$x$	$y = x$	$y = 2x$	$y = \frac{1}{2}x$	$y = 3x - 4$	$y = -2x$	$y = \frac{1}{5}x - 1$	$y = 5x + 2$	$y = -3x - 4$
0								
1								
2								
3								
-1								
-2								
-3								

Q 1.

1. Draw the general shape for this function family?
2. What happens when the coefficients is increased
3. What happens when the coefficient is decreased?
4. What happens when the coefficient is negative?

5. What happens when the constant is changed?

## 2 Quadratics

Fill the following table.

	1	2	3	4	5	6	7
$x$	$y = x^2$	$y = 2x^2$	$y = \frac{1}{2}x^2$	$y = 3x^2 - 4$	$y = 5x^2 + 2$	$y = \frac{1}{5}x^2 - 1$	$y = -2x^2$
0							
1							
2							
3							
-1							
-2							
-3							

Q 1.

1. Draw the general shape for this function family?
2. What happens when the coefficients is increased
3. What happens when the coefficient is decreased?
4. What happens when the coefficient is negative?
5. What happens when the constant is changed?

### 3 Cubics

Fill the following table.

	1	2	3	4	5
$x$	$y = x^3$	$y = 2x^3$	$y = \frac{1}{2}x^3$	$y = 3x^3 - 4$	$y = 5x^3 + 2$
0					
1					
-1					
2					
-2					

Q 1.

1. Draw the general shape for this function family?
2. What happens when the coefficient is increased?
3. What happens when the coefficient is decreased?
4. What happens when the coefficient is negative?
5. What happens when the constant is changed?

## 4 Absolute Value

Fill the following table.

	1	2	3	4	5
$x$	$y =  x $	$y =  2x $	$y =  x + 2 $	$y =  x - 2 $	$y = 2 x $
0					
1					
-1					
2					
-2					

Q 1.

1. Draw the general shape for this function family?
2. What happens when the coefficients is increased
3. What happens when the coefficient is decreased?
4. What happens when the coefficient is negative?
5. What happens when the constant is changed?

## 5 Square Root

Fill the following table.

	1	2	3	4	5	6
$x$	$y = \sqrt{x}$	$y = 2\sqrt{x}$	$y = \frac{1}{2}\sqrt{x}$	$y = 3\sqrt{x} - 4$	$y = 5\sqrt{x} + 2$	$y = \frac{1}{5}\sqrt{x} - 1$
0						
1						
-1						
2						
-2						

Q 1.

1. Draw the general shape for this function family?
2. What happens when the coefficients is increased
3. What happens when the coefficient is decreased?
4. What happens when the coefficient is negative?
5. What happens when the constant is changed?

## 6 Cube Root

Fill the following table.

	1	2	3	4	5	6
$x$	$y = \sqrt[3]{x}$	$y = 2\sqrt[3]{x}$	$y = \frac{1}{2}\sqrt[3]{x}$	$y = 3\sqrt[3]{x} - 4$	$y = 5\sqrt[3]{x} + 2$	$y = \frac{1}{5}\sqrt[3]{x} - 1$
0						
1						
-1						
2						
-2						

Q 1.

1. Draw the general shape for this function family?
2. What happens when the coefficient is increased?
3. What happens when the coefficient is decreased?
4. What happens when the coefficient is negative?
5. What happens when the constant is changed?