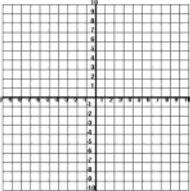


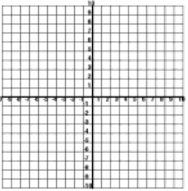
1

Common Graphs

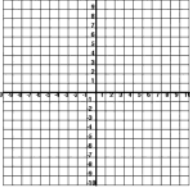
Constant Function (a special type of linear function)

 $y = c$
 For example, $y = 5$


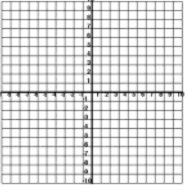
Linear function

 $y = mx + b$
 For example, $y = \frac{2}{5}x + 4$


Vertical line (NOT a function)

 $x = c$
 For example, $x = 4$


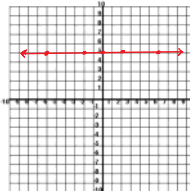
Cubic functions

 $y = x^3$


1

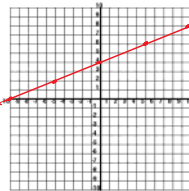
Common Graphs

Constant Function (a special type of linear function)

 $y = c$
 For example, $y = 5$


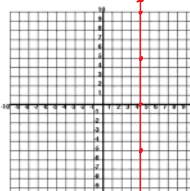
X	Y
-6	5
-2	5
0	5
2	5
6	5

Linear function

 $y = mx + b$
 For example, $y = \frac{2}{5}x + 4$


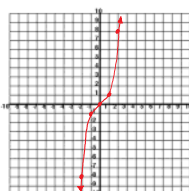
X	Y
-10	0
-5	2
0	4
5	6
10	8

Vertical line (NOT a function)

 $x = c$
 For example, $x = 4$


X	Y
4	-10
4	-5
4	0
4	5
4	10

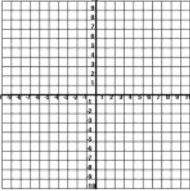
Cubic functions

 $y = x^3$


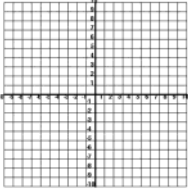
X	Y
-2	-8
-1	-1
0	0
1	1
2	8

2

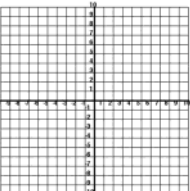
Quadratic functions (BASE)

 $y = x^2$ mapping:


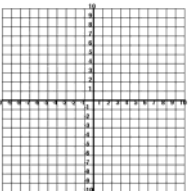
Quadratic functions (translated)

 $y = (x+5)^2 - 3$


Radical functions (BASE)

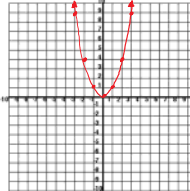
 $y = \sqrt{x}$ mapping:


Radical functions (translated)

 $y = \sqrt{x-4} + 3$


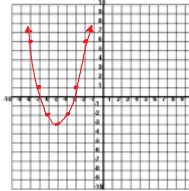
2

Quadratic functions (BASE)

 $y = x^2$ mapping:


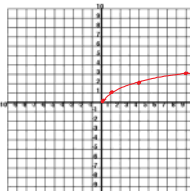
X	Y
-3	9
-2	4
-1	1
0	0
1	1
2	4
3	9

Quadratic functions (translated)

 $y = (x+5)^2 - 3$
 $(x, y) \rightarrow (x-5, y-3)$


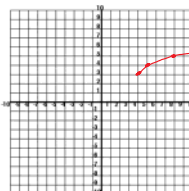
X-5	Y-3
-8	6
-7	1
-6	-2
-5	-3
-4	-2
-3	1
-2	6

Radical functions (BASE)

 $y = \sqrt{x}$ mapping:


x	y
0	0
1	1
4	2
9	3

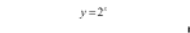
Radical functions (translated)

 $y = \sqrt{x-4} + 3$
 $(x, y) \rightarrow (x+4, y+3)$


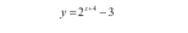
X+4	Y+3
4	3
5	4
8	5
13	6

3

Exponential functions (BASE)

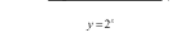
 $y = 2^x$ mapping:


Exponential functions (translated)

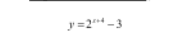
 $y = 2^{x+4} - 3$


3

Exponential functions (BASE)

 $y = 2^x$ mapping:


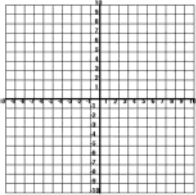
Exponential functions (translated)

 $y = 2^{x+4} - 3$


Exponential functions (BASE)

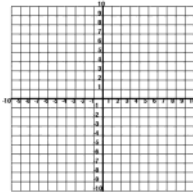
$y = 2^x$

mapping:



Exponential functions (translated)

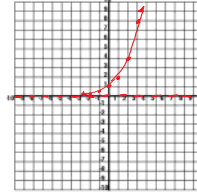
$y = 2^{x+4} - 3$



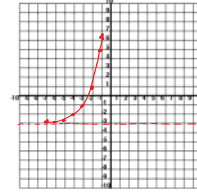
Exponential functions (BASE)

$y = 2^x$

mapping: $(x, y) \rightarrow (x-4, y-3)$



x	y
-2	1/4
-1	1/2
0	1
1	2
2	4
3	8



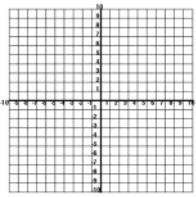
x-4	y-3
-6	1/4
-5	1/2
-4	1
-3	2
-2	4
-1	8

$\frac{1}{4} = 2^{-2}$
 $\frac{1}{2} = 2^{-1}$
 $1 = 2^0$
 $2 = 2^1$
 $4 = 2^2$
 $8 = 2^3$

Absolute value functions (BASE)

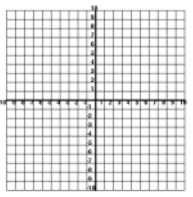
$y = |x|$

mapping:



Absolute value functions (translated)

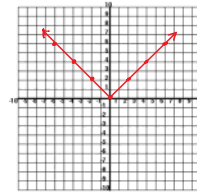
$y = |x-5| + 3$



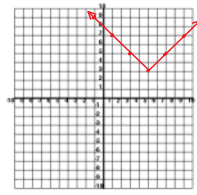
Absolute value functions (BASE)

$y = |x|$

mapping: $(x, y) \rightarrow (x+5, y+3)$



x	y
-6	6
-4	4
-2	2
0	0
2	2
4	4
6	6

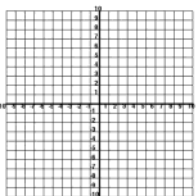


x+5	y+3
-1	9
1	7
3	5
5	3
7	5
9	7
11	9

Rational functions (BASE)

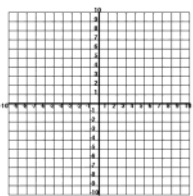
$y = \frac{1}{x}$

mapping:



Rational functions (translated)

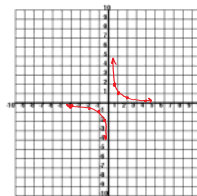
$y = \frac{1}{x+4} - 6$



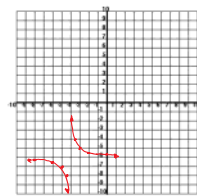
Rational functions (BASE)

$y = \frac{1}{x}$

mapping: $(x, y) \rightarrow (x-4, y-6)$



x	y
-4	-1/4
-2	-1/2
-1	-1
-1/2	-2
1/2	2
1	1
2	1/2
4	1/4

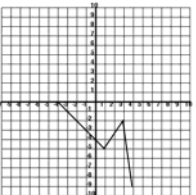


x-4	y-6
-8	-6 1/4
-6	-6 1/2
-5	-7
-4 1/2	-8
-3 1/2	-4
-3	-5
-2	-5 1/2
0	-5 3/4

Random Function (BASE)

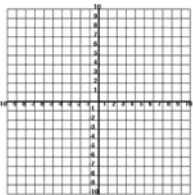
$y = f(x)$

mapping:



Random Function (translated)

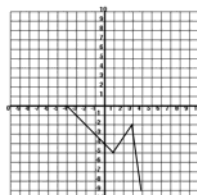
$y = f(x-3) + 2$



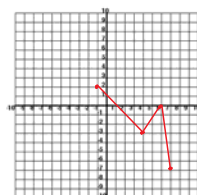
Random Function (BASE)

$y = f(x)$

mapping: $(x, y) \rightarrow (x+3, y+2)$



x	y
-4	0
1	-5
3	-2
4	-9



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