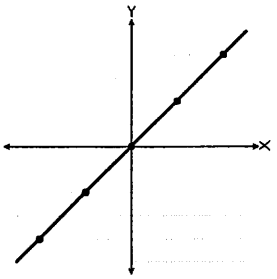
Function Tables and Graphs

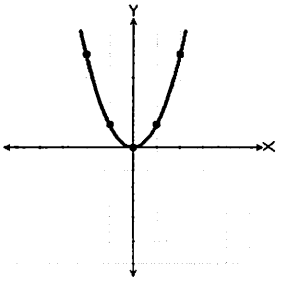
The Four Basic Types of Functions

Linear



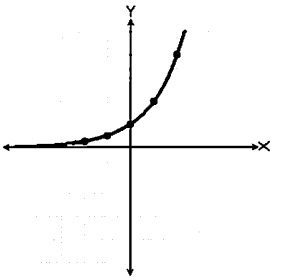
$f(x) = x$

Quadratic



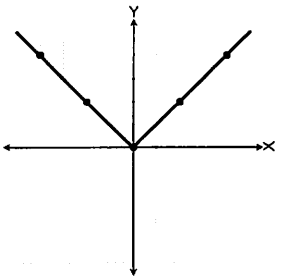
$f(x) = x^2$

Exponential



$f(x) = 2^x$

Absolute Value

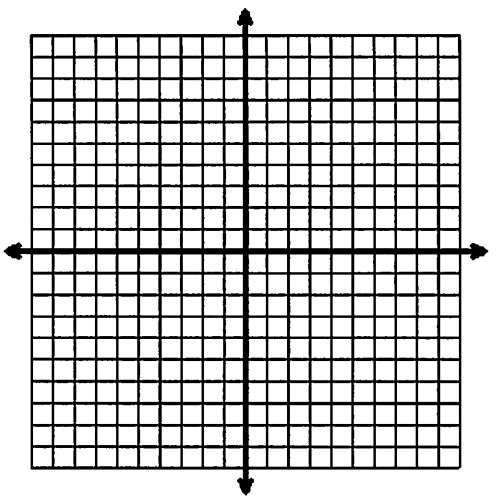


$f(x) = |x|$

Linear Functions

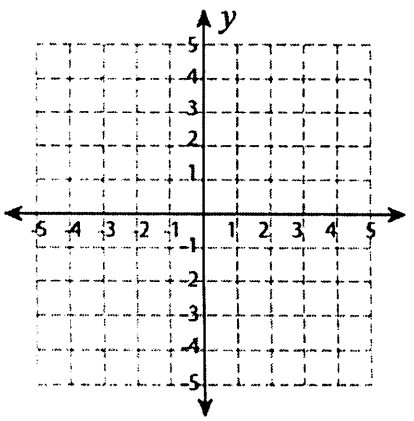
Model the function $y = \frac{1}{3}x - 3$ with a table of values and graph for the domain: $-6 \le x \le 6$

Domain (x)	$y = \frac{1}{3}x - 3$	Range (y)



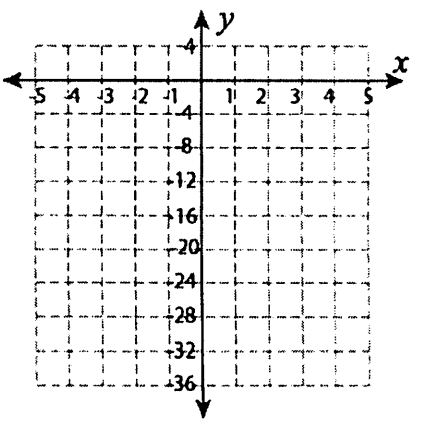
$f(x) = -4 - x$

x	-3	-2	-1	0	1
$f(x)$					



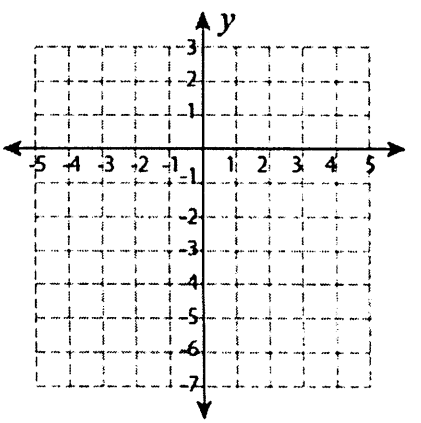
$f(x) = 4x - 12$

x	-5	-3	0	1	2
$f(x)$					



$f(x) = -x - 2$

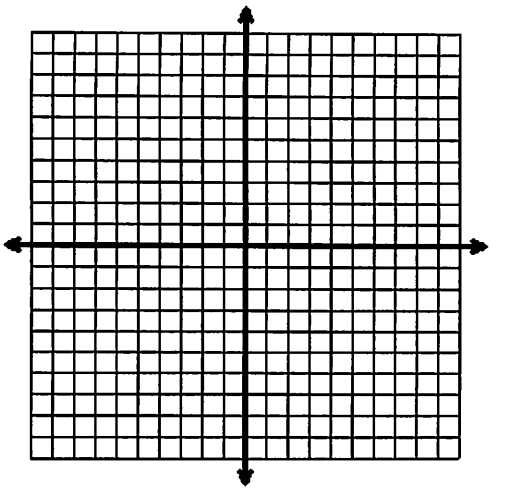
x	-3	-1	1	3	5
$f(x)$					



Quadratic Functions

Model the function $y = x^2 + 3x - 4$ with a table of values and graph for the domain: $-4 \le x \le 1$.

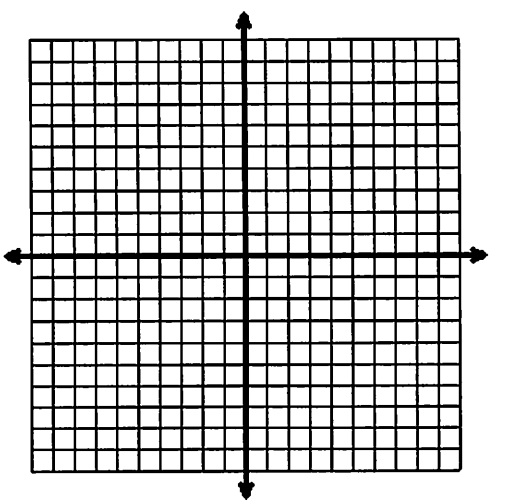
Domain (x)	$y = x^2 + 3x - 4$	Range (y)



Exponential Functions

Model the function $y = 2^x - 6$ with a table of values and graph for the domain: $0 \le x \le 4$.

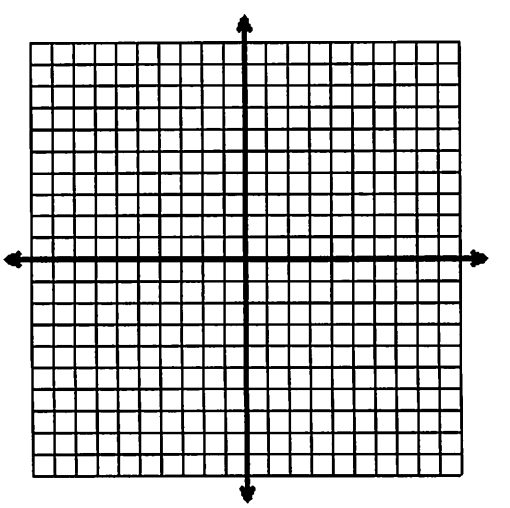
Domain (x)	$y = 2^x - 6$	Range (y)



Absolute Value Functions

Model the function $y = |x + 3|$ with a table of values and graph for the domain: $-5 \le x \le -1$

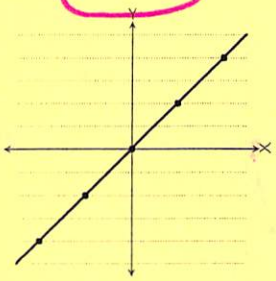
Domain (x)	$y = \|x + 3\|$	Range (y)



Function Tables and Graphs

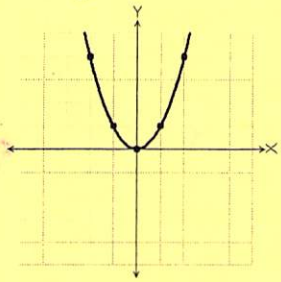
The Four Basic Types of Functions

Linear



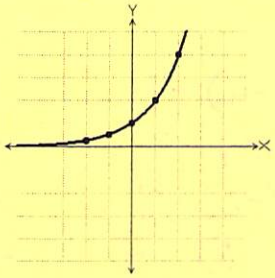
$f(x) = x$

Quadratic



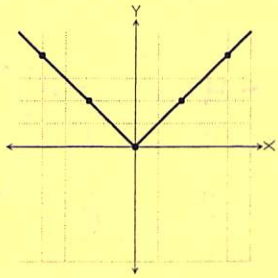
$f(x) = x^2$

Exponential



$f(x) = 2^x$

Absolute Value

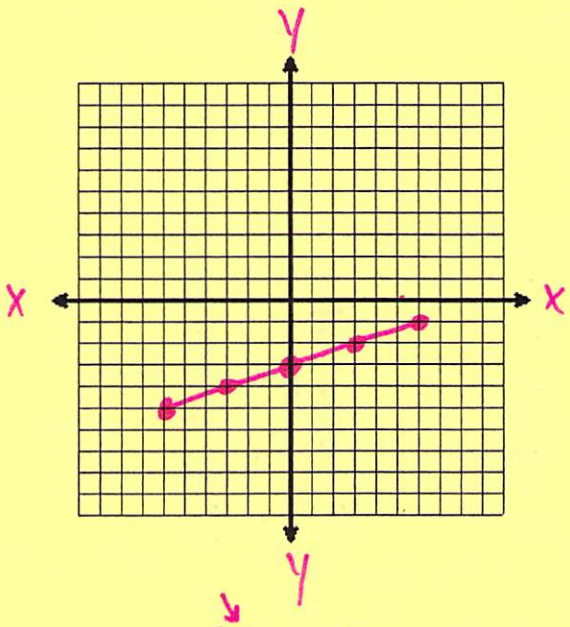


$f(x) = |x|$

Linear Functions

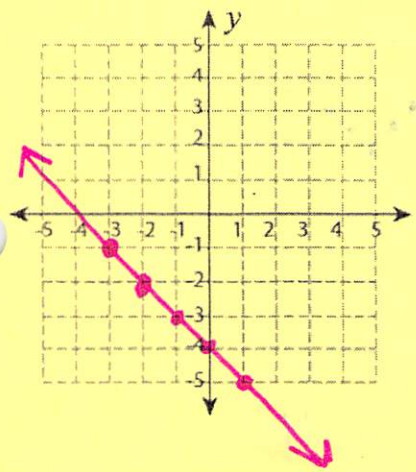
Model the function $y = \frac{1}{3}x - 3$ with a table of values and graph for the domain: $-6 \le x \le 6$

Domain (x)	$y = \frac{1}{3}x - 3$	Range (y)
-6	$\frac{1}{3}\cdot(-6) - 3$	-5
-3	$\frac{1}{3}\cdot(-3) - 3$	-4
0	$\frac{1}{3}\cdot 0 - 3$	-3
3	$\frac{1}{3}\cdot 3 - 3$	-2
6	$\frac{1}{3}\cdot 6 - 3$	-1



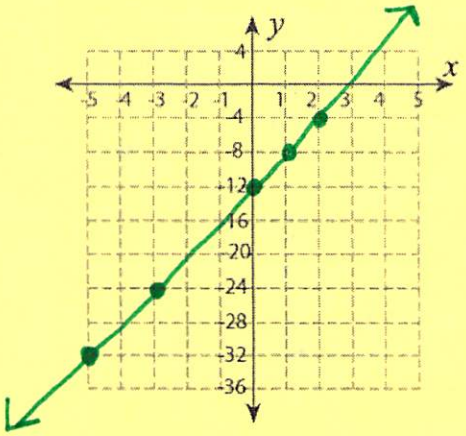
$f(x) = -4 - x$

x	-3	-2	-1	0	1
$f(x)$	-1	-2	-3	-4	-5



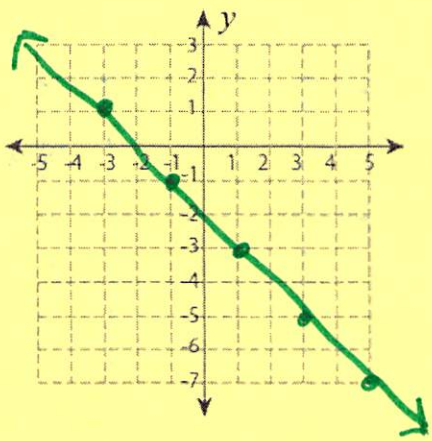
$f(x) = 4x - 12$

x	-5	-3	0	1	2
$f(x)$	-32	-24	-12	-8	-4



$f(x) = -x - 2$

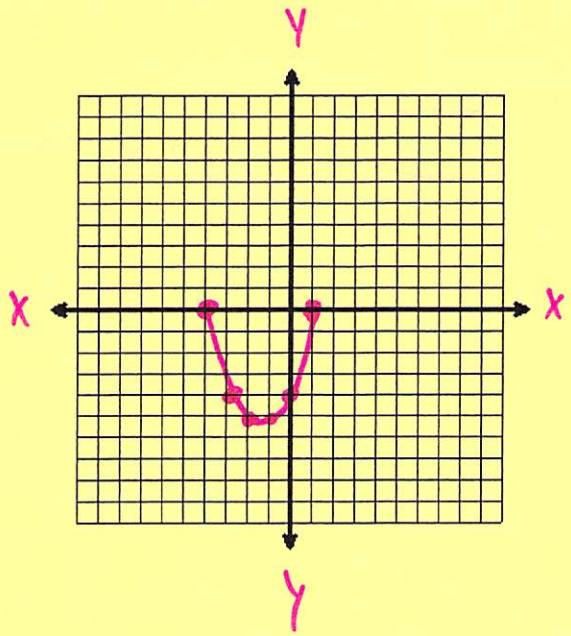
x	-3	-1	1	3	5
$f(x)$	1	-1	-3	-5	-7



Quadratic Functions

Model the function $y = x^2 + 3x - 4$ with a table of values and graph for the domain: $-4 \le x \le 1$.

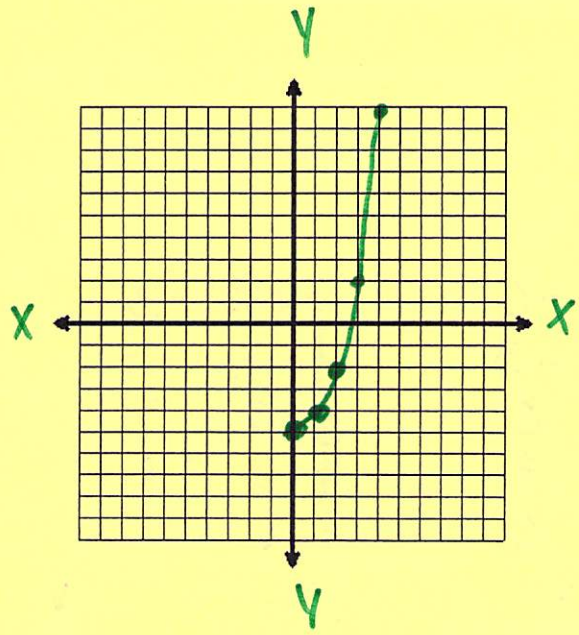
Domain (x)	$y = x^2 + 3x - 4$	Range (y)
-4	$(-4)^2 + 3(-4) - 4$	0
-3	$(-3)^2 + 3(-3) - 4$	-4
-2	$(-2)^2 + 3(-2) - 4$	-6
-1	$(-1)^2 + 3(-1) - 4$	-6
0	$0^2 + 3(0) - 4$	-4
1	$1^2 + 3(1) - 4$	0



Exponential Functions

Model the function $y = 2^x - 6$ with a table of values and graph for the domain: $0 \le x \le 4$.

Domain (x)	$y = 2^x - 6$	Range (y)
0	$2^0 - 6$	-5
1	$2^1 - 6$	-4
2	$2^2 - 6$	-2
3	$2^3 - 6$	2
4	$2^4 - 6$	10



Absolute Value Functions

Model the function $y = |x + 3|$ with a table of values and graph for the domain: $-5 \le x \le -1$

Domain (x)	$y = \lvert x + 3 \rvert$	Range (y)
-5	$\lvert -5 + 3 \rvert$	2
-4	$\lvert -4 + 3 \rvert$	1
-3	$\lvert -3 + 3 \rvert$	0
-2	$\lvert -2 + 3 \rvert$	1
-1	$\lvert -1 + 3 \rvert$	2