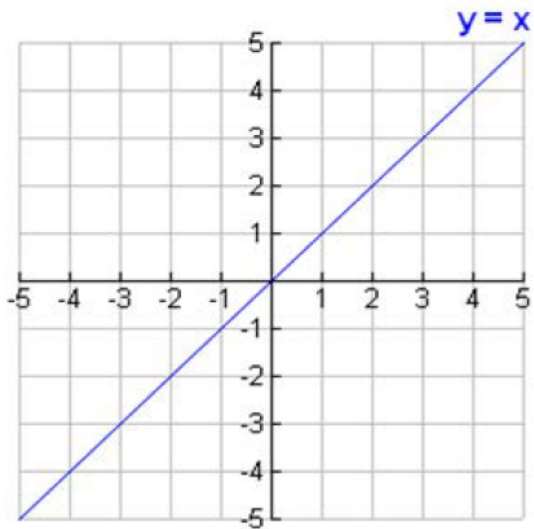


Linear Functions

Linear Function: $f(x) = x$

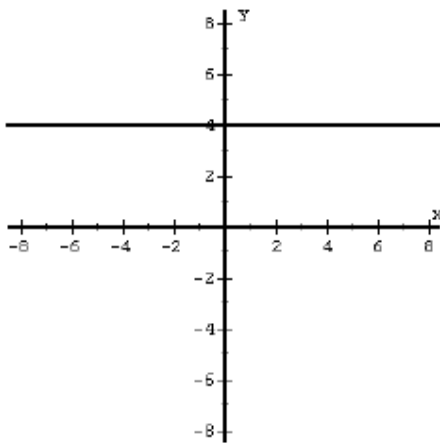


Domain: All real numbers

Range: All real numbers

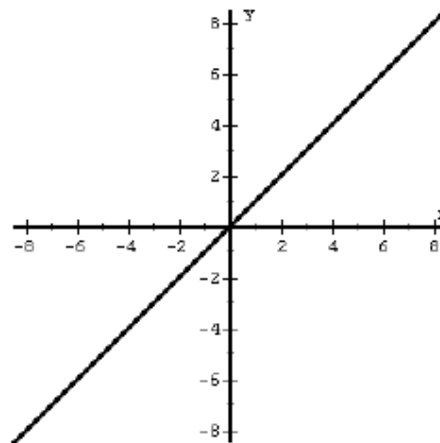
X – Intercept: (0, 0)

Y – Intercept: (0, 0)



$f(x) = a$

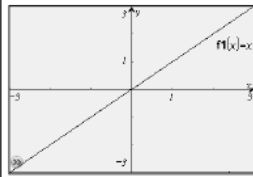
Constant

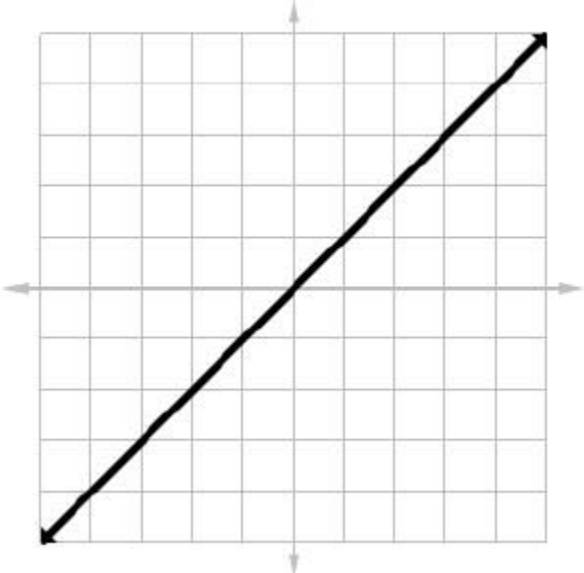


$f(x) = x$

Linear

Linear Functions

Name of Parent Function	Graph of Function	Table of Values	Equation of Parent Function	Special Features or Characteristics														
Linear Function		<table border="1"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-2</td> <td>-2</td> </tr> <tr> <td>-1</td> <td>-1</td> </tr> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>2</td> </tr> <tr> <td>3</td> <td>3</td> </tr> </tbody> </table>	x	y	-2	-2	-1	-1	0	0	1	1	2	2	3	3	$f(x) = x$	<ul style="list-style-type: none"> • Line intersects the y-axis at (0,0) • Domain is all Real Numbers • Range is all Real Numbers
x	y																	
-2	-2																	
-1	-1																	
0	0																	
1	1																	
2	2																	
3	3																	

Parent Function	Graph
<p>$y=x$ Linear, Odd Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$ End Behavior: $x \rightarrow -\infty, y \rightarrow -\infty$ $x \rightarrow \infty, y \rightarrow \infty$ Critical points: $(-1, -1), (0, 0), (1, 1)$</p>	

Linear Functions

<p style="text-align: center;">$y = C$ ($y = 2$)</p> <p>Constant, Even</p> <p>Domain: $(-\infty, \infty)$</p> <p>Range: $\{y: y = C\}$</p> <p>End Behavior: $x \rightarrow -\infty, y \rightarrow C$ $x \rightarrow \infty, y \rightarrow C$</p> <p>Critical points: $(-1, C), (0, C), (1, C)$</p>	
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Parent Function	Graph	Parent Function	Graph
<p>$y = x$ Linear, Odd</p> <p>Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$</p> <p>End Behavior: $x \rightarrow -\infty, y \rightarrow -\infty$ $x \rightarrow \infty, y \rightarrow \infty$</p>		<p>$y = C$ ($y = 2$ in the graph) Constant, Even</p> <p>Domain: $(-\infty, \infty)$ Range: $\{y: y = C\}$</p> <p>End Behavior: $x \rightarrow -\infty, y \rightarrow C$ $x \rightarrow \infty, y \rightarrow C$</p>	

Linear Functions

$$y = C$$

$$(y = 2)$$

Constant, Even

Domain:

$(-\infty, \infty)$ **Range:**

$\{y: y = C\}$ **End**

Behavior:

$x \rightarrow -\infty, y \rightarrow C$ x

$\rightarrow \infty, y \rightarrow C$

Critical points:

$(-1, C), (0, C), (1, C)$

