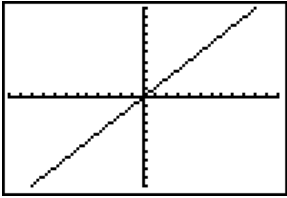
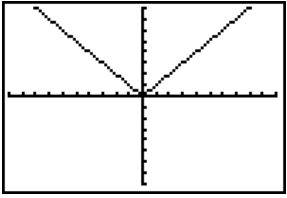
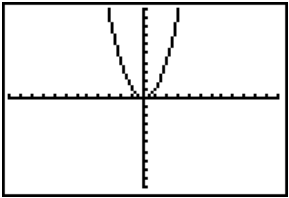
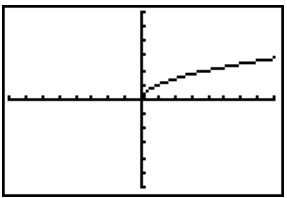
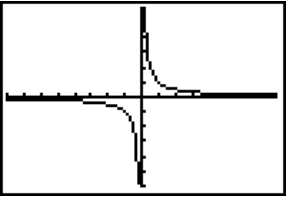
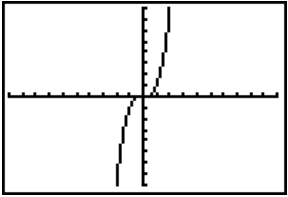
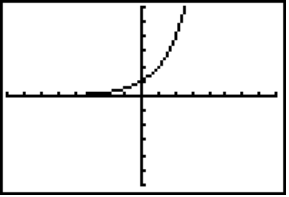
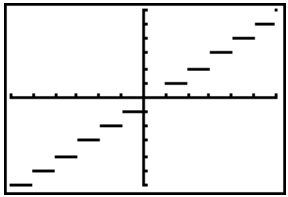
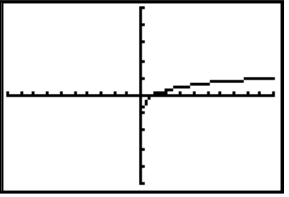
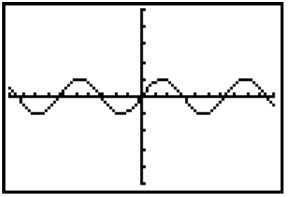


# The Function Family

<p><b>I. IDENTITY FUNCTION:</b> <math>f(x) = x</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> 	<p><b>II. ABSOLUTE VALUE FUNCTION:</b> <math>f(x) =  x </math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>y \geq 0</math>  <math>[0, +\infty)</math></p> 
<p><b>III. SQUARE FUNCTION:</b> <math>f(x) = x^2</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>y \geq 0</math>  <math>[0, +\infty)</math></p> 	<p><b>IV. SQUARE ROOT FUNCTION:</b> <math>f(x) = \sqrt{x}</math></p> <p>Domain:  <math>x \geq 0</math>  <math>[0, +\infty)</math></p> <p>Range:  <math>y \geq 0</math>  <math>[0, +\infty)</math></p> 
<p><b>V. RECIPROCAL FUNCTION:</b> <math>f(x) = \frac{1}{x}</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals), <math>x \neq 0</math>  <math>(-\infty, 0) \cup (0, +\infty)</math></p> <p>Range:  <math>\mathbb{R}</math> (All Reals), <math>y \neq 0</math>  <math>(-\infty, 0) \cup (0, +\infty)</math></p> 	<p><b>VI. CUBIC FUNCTION:</b> <math>f(x) = x^3</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> 
<p><b>VII. EXPONENTIAL FUNCTION:</b> <math>f(x) = 2^x</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>y &gt; 0</math>  <math>(0, +\infty)</math></p> 	<p><b>VIII. GREATEST INTEGER FUNCTION:</b> <math>f(x) = [x]</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>\mathbb{Z}</math> (All Integers) <math>\mathbb{Z}</math></p> 
<p><b>IX. LOGARITHMIC FUNCTION:</b> <math>f(x) = \log x</math></p> <p>Domain:  <math>x &gt; 0</math>  <math>(0, +\infty)</math></p> <p>Range:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> 	<p><b>X. SINE FUNCTION:</b> <math>f(x) = \sin x</math></p> <p>Domain:  <math>\mathbb{R}</math> (All Reals)  <math>(-\infty, +\infty)</math></p> <p>Range:  <math>-1 \leq y \leq 1</math>  <math>[-1, 1]</math></p> 

# The Function Family Parameters

<b>IDENTITY FUNCTION:</b>	$f(x) = a(b(x - h)) + k$
<b>ABSOLUTE VALUE FUNCTION:</b>	$f(x) = a b(x - h)  + k$
<b>SQUARE FUNCTION:</b>	$f(x) = a(b(x - h))^2 + k$
<b>SQUARE ROOT FUNCTION:</b>	$f(x) = a\sqrt{b(x - h)} + k$
<b>RECIPROCAL FUNCTION:</b>	$f(x) = \frac{a}{(b(x - h))} + k$
<b>CUBIC FUNCTION:</b>	$f(x) = a(b(x - h))^3 + k$
<b>EXPONENTIAL FUNCTION:</b>	$f(x) = 2^{(b(x - h))} + k$
<b>GREATEST INTEGER FUNCTION:</b>	$f(x) = a[b(x - h)] + k$
<b>LOGARITHMIC FUNCTION:</b>	$f(x) = a \log (b(x - h)) + k$
<b>SINE FUNCTION:</b>	$f(x) = a \sin (b(x - h)) + k$