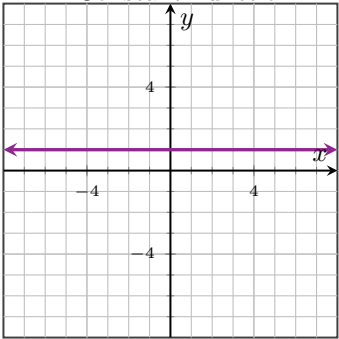
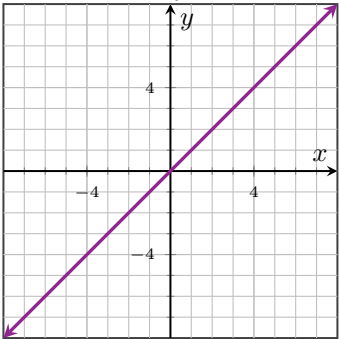
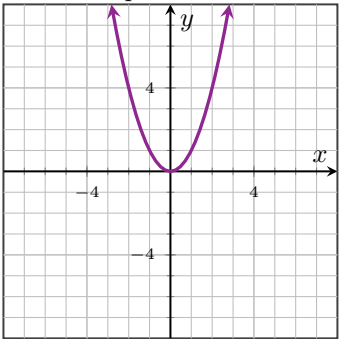
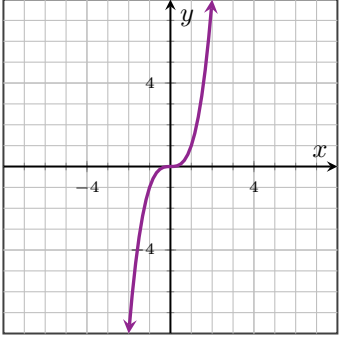
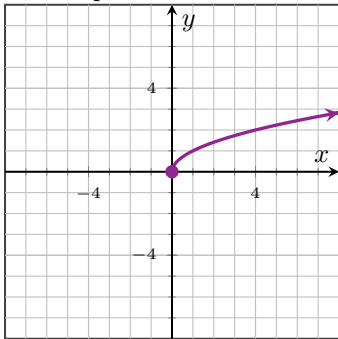
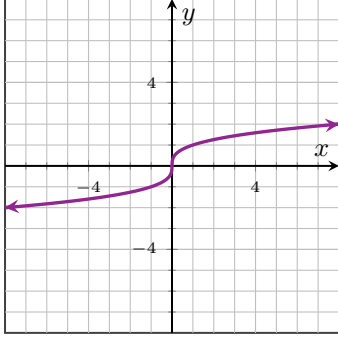
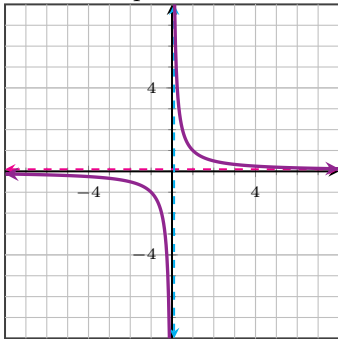
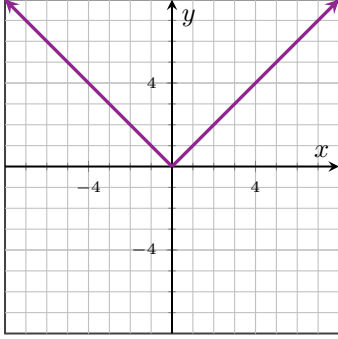


# A Library of Functions and Their Properties

<p style="text-align: center;">A Constant Function</p> 	<p>Function: <math>f(x) = 1</math></p> <p>Domain: <math>(-\infty, \infty)</math></p> <p>Range: <math>\{1\}</math></p> <p>Interval of Increase: <math>\emptyset</math></p> <p>Interval of Decrease: <math>\emptyset</math></p> <p>Concave Up: <math>\emptyset</math></p> <p>Concave Down: <math>\emptyset</math></p>
<p style="text-align: center;">The Identity Function</p> 	<p>Function: <math>f(x) = x</math></p> <p>Domain: <math>(-\infty, \infty)</math></p> <p>Range: <math>(-\infty, \infty)</math></p> <p>Interval of Increase: <math>(-\infty, \infty)</math></p> <p>Interval of Decrease: <math>\emptyset</math></p> <p>Concave Up: <math>\emptyset</math></p> <p>Concave Down: <math>\emptyset</math></p>
<p style="text-align: center;">The Square Function</p> 	<p>Function: <math>f(x) = x^2</math></p> <p>Domain: <math>(-\infty, \infty)</math></p> <p>Range: <math>[0, \infty)</math></p> <p>Interval of Increase: <math>(0, \infty)</math></p> <p>Interval of Decrease: <math>(-\infty, 0)</math></p> <p>Concave Up: <math>(-\infty, \infty)</math></p> <p>Concave Down: <math>\emptyset</math></p>
<p style="text-align: center;">The Cube Function</p> 	<p>Function: <math>f(x) = x^3</math></p> <p>Domain: <math>(-\infty, \infty)</math></p> <p>Range: <math>(-\infty, \infty)</math></p> <p>Interval of Increase: <math>(-\infty, \infty)</math></p> <p>Interval of Decrease: <math>\emptyset</math></p> <p>Concave Up: <math>(0, \infty)</math></p> <p>Concave Down: <math>(-\infty, 0)</math></p>

# A Library of Functions and Their Properties

<p>The Square Root Function</p> 	<p>Function: <math>f(x) = \sqrt{x}</math></p> <p>Domain: <math>[0, \infty)</math></p> <p>Range: <math>[0, \infty)</math></p> <p>Interval of Increase: <math>(0, \infty)</math></p> <p>Interval of Decrease: <math>\emptyset</math></p> <p>Concave Up: <math>\emptyset</math></p> <p>Concave Down: <math>(0, \infty)</math></p>
<p>The Cube Root Function</p> 	<p>Function: <math>f(x) = \sqrt[3]{x}</math></p> <p>Domain: <math>(-\infty, \infty)</math></p> <p>Range: <math>(-\infty, \infty)</math></p> <p>Interval of Increase: <math>(-\infty, \infty)</math></p> <p>Interval of Decrease: <math>\emptyset</math></p> <p>Concave Up: <math>(-\infty, 0)</math></p> <p>Concave Down: <math>(0, \infty)</math></p>
<p>The Reciprocal Function</p> 	<p>Function: <math>f(x) = \frac{1}{x}</math></p> <p>Domain: <math>(-\infty, 0) \cup (0, \infty)</math></p> <p>Range: <math>(-\infty, 0) \cup (0, \infty)</math></p> <p>Interval of Increase: <math>\emptyset</math></p> <p>Interval of Decrease: <math>(-\infty, 0) \cup (0, \infty)</math></p> <p>Concave Up: <math>(0, \infty)</math></p> <p>Concave Down: <math>(-\infty, 0)</math></p>
<p>The Absolute Value Function</p> 	<p>Function: <math>f(x) =  x </math></p> <p>Domain: <math>(-\infty, \infty)</math></p> <p>Range: <math>[0, \infty)</math></p> <p>Interval of Increase: <math>(0, \infty)</math></p> <p>Interval of Decrease: <math>(-\infty, 0)</math></p> <p>Concave Up: <math>\emptyset</math></p> <p>Concave Down: <math>\emptyset</math></p>