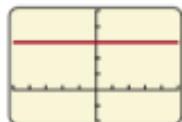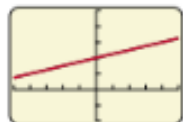# A Library of Functions

Constant Function
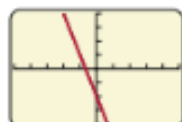$y = b$

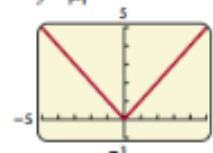### Linear Function
$y = mx + b, m > 0$
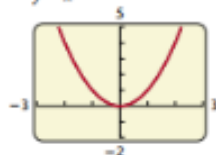
Linear Function
$y = mx + b, m < 0$

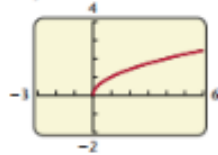### Absolute Value Function
$y = |x|$

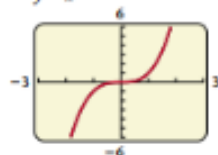### Squaring Function
$y = x^2$

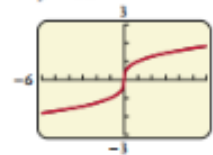### Square Root Function
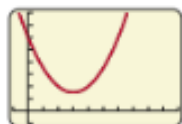$y = \sqrt{x}$

Cubing Function
$y = x^3$

Cube Root Function
$y = \sqrt[3]{x}$

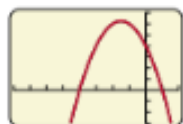### Quadratic Function
$y = ax^2 + bx + c, a > 0$

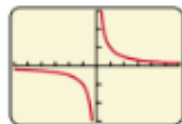### Quadratic Function
$y = ax^2 + bx + c, a < 0$

Rational Function
$y = \frac{a}{x}, a > 0$

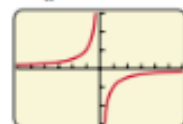### Rational Function
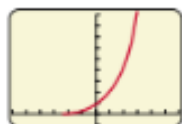$y = \frac{a}{x}, a < 0$

Exponential Function
$y = a^x, a > 1$

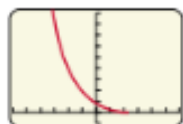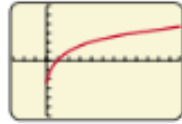### Exponential Function
$y = a^x, 0 < a < 1$

Logarithmic Function
$y = \log_b x, b > 1$

Logarithmic Function
$y = \log_b x, 0 < b < 1$