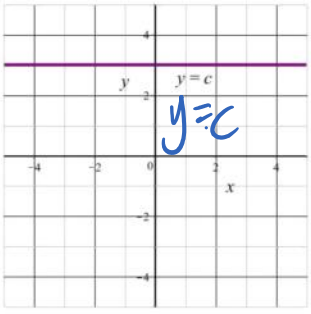
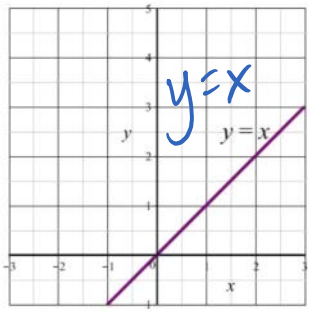
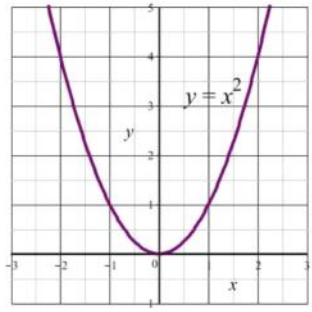
Math 1314 – College Algebra
Graphs of several basic functions:



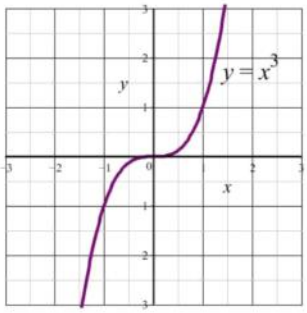
Domain:
Range:
Constant Function



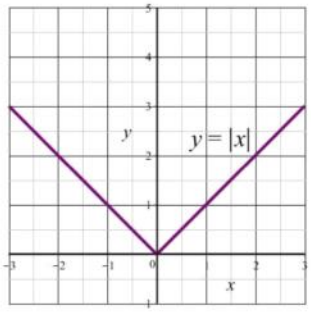
Domain:
Range:
Identity Function



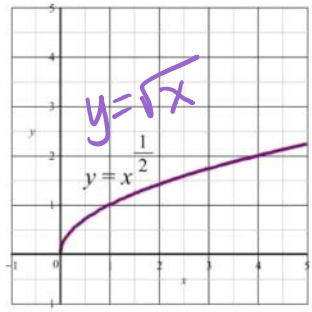
Domain:
Range:
Squaring Function



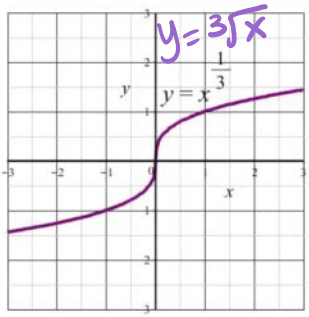
Domain:
Range:
Cubing Function



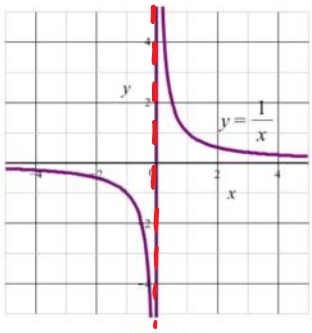
Domain:
Range:
Absolute Value Function



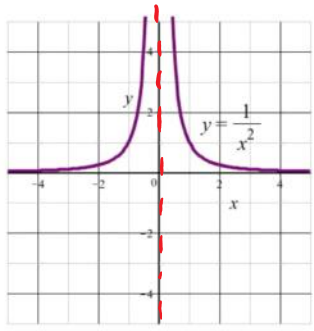
Domain:
Range:
Square Root Function



Domain:
Range:
Cube Root Function



Domain:
Range:
Reciprocal Function



Domain:
Range:
Reciprocal Squared Function

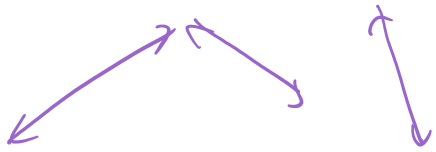
$x=7$ $y=3$ $0x+y=3$

Graphs of several basic functions and circles (more generic):

$3+5x-y=2x$

$3x^2+5x-1=y$ $2x^2-y+1=3x$

Lines (linear): $y=mx+b$ or $Ax+By=C$



Parabola (quadratic): $y=ax^2+bx+c$

- y is raised to 1st power
- highest power of x is 2.

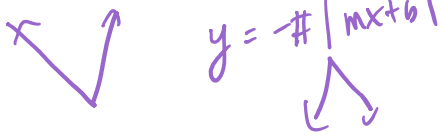
No fractional powers

Both x & y (if we have both) are raised to 1st power

Absolute Value: $y=|mx+b|$

$y=|\text{linear}|$

x to 1st power only



$y=\#|mx+b|$

Square Root: $y=\sqrt{mx+b}$

y = sqrt

radicand: x only to 1st power may have constants

$y=\#\sqrt{mx+b}$

Cubic: $y=ax^3+bx^2+cx+d$

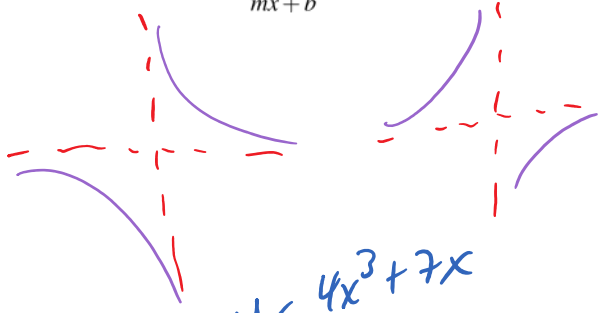
- y to 1st power
- highest power of x is 3

No fractional powers

Cube Root: $y=\sqrt[3]{mx+b}$

$y=\sqrt[3]{}$ x to 1st power maybe some constants

Rational (basic): $y=\dfrac{1}{mx+b}$



$y=4x^3+7x$

$y=|3x+5|$

$4(x-2)^2+4(y-1)^2=4$

Circle: $ax^2+ay^2+bx+cy+d=0$

NOTE: BE CAREFUL!

Circles are not functions of x.

- highest power of x & y is 2. no frac. powers.
- coeff of x^2 = coeff of y^2

$y=2x^2+6x-4$