

Name _____

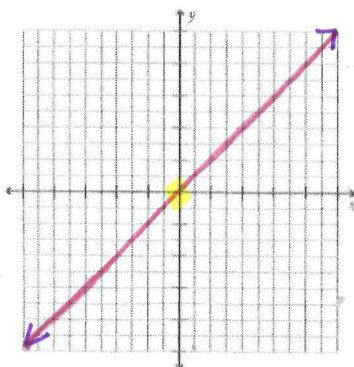
Hour _____

Date: _____

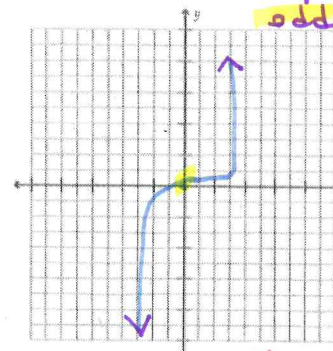
The 12 Basic Functions (Parent)

Name: Identity (Linear)Equation: $F(x) = x$ Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$ Symmetry: oddAsymptote: none

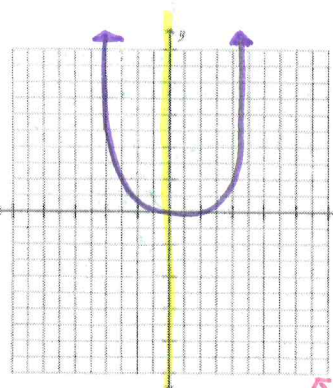
→ origin mirror

Name: CubicEquation: $F(x) = x^3$ Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$ Symmetry: oddAsymptote: none[Opposite input,
Opposite output]

$2^3 = 8$
 $(-2)^3 = -8$ } opposite input
 opposite output
odd

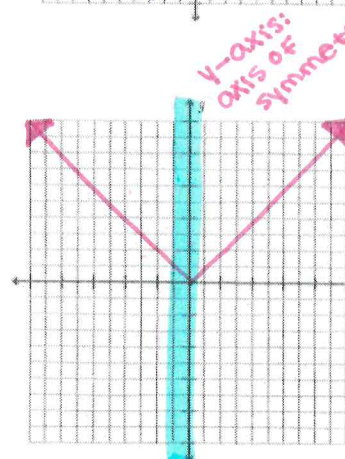
Name: Squaring FunctionEquation: $F(x) = x^2$ Domain: $(-\infty, \infty)$ → inputRange: $(0, \infty)$ → outputSymmetry: evenAsymptote: none

output always has to be ⊕ or zero

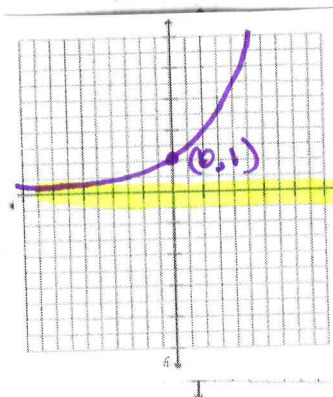


$2^2 = 4$
 $(-2)^2 = 4$

[Opposite input, same output]

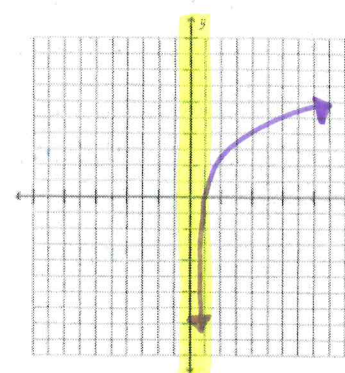
Name: Absolute ValueEquation: $F(x) = |x|$ Domain: $(-\infty, \infty)$ Range: $(0, \infty)$ Symmetry: evenAsymptote: none

$y = |2| = 2$
 $y = |-2| = 2$

Name: ExponentialEquation: $F(x) = e^x$ Domain: $(-\infty, \infty)$ Range: $(0, \infty)$ Symmetry: noneAsymptote: horizontal
(x-axis)

$e^0 = 1$
 e^{-3}
 e^{17}

* log and exponential are inverses *

Name: LogarithmicEquation: $F(x) = \ln x$ Domain: $(0, \infty)$ Range: $(-\infty, \infty)$ Symmetry: noneAsymptote: vertical
(y-axis)

• input has to be ⊕ •

~~$\log 0$~~
 ~~$\log -7$~~