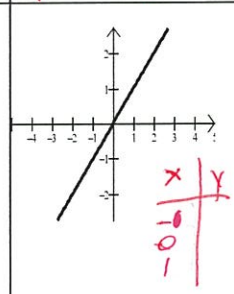
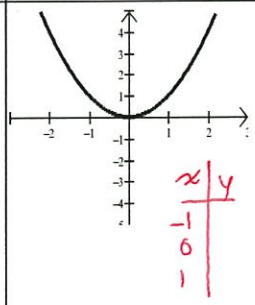
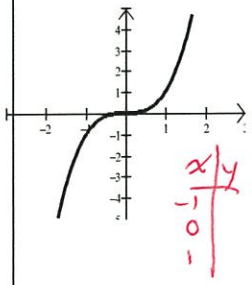
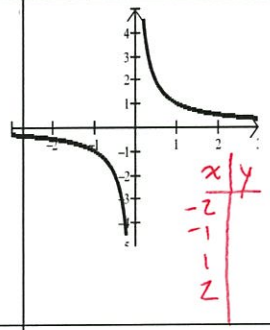
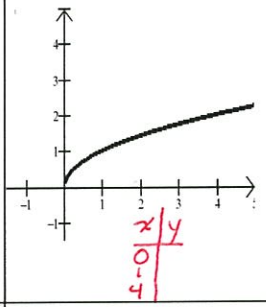
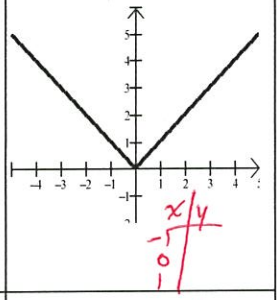
Parent Functions

Name: _____ Period: ____

Parent Function Name	Identity	Quadratic	Cubic	Reciprocal	Square Root	Absolute Value
Parent Function Equation	$f(x) = x$ $y = x$ $y = 1x + 0$	$f(x) = x^2$	$f(x) = x^3$	$f(x) = \frac{1}{x}$	$f(x) = \sqrt{x}$	$f(x) = \lvert x \rvert$
Parent Function Graph						
Domain	$(-\infty, \infty)$	$(-\infty, \infty)$	$(-\infty, \infty)$	$(-\infty, 0) \cup (0, \infty)$	$[0, \infty)$	$(-\infty, \infty)$
Range	$(-\infty, \infty)$	$[0, +\infty)$	$(-\infty, \infty)$	$(-\infty, 0) \cup (0, \infty)$	$[0, \infty)$	$[0, \infty)$
Continuous? If not, what type of discontinuity?	C	C	continuous	Infinite	continuous	C
Increasing?	$(-\infty, +\infty)$	$(0, \infty)$	$(-\infty, +\infty)$	never	$[0, \infty)$	$(0, \infty)$
Decreasing?	none	$(-\infty, 0)$	none	$(-\infty, 0) \cup (0, +\infty)$	none	$(-\infty, 0)$
How many zeros?	1	1	1	none	1	1
$y-$ intercept	0	0	0	none	0	0
$x-$ intercept(s)/ Zeros	$(0, 0)$	$(0, 0)$	$(0, 0)$	none	$(0, 0)$	(0,0)
End behavior	$\lim_{x \to \infty} f(x) = \infty$ $\lim_{x \to -\infty} f(x) = -\infty$	$\lim_{x \to -\infty} f(x) = \infty$ $\lim_{x \to \infty} f(x) = \infty$	$\lim_{x \to \infty} f(x) = \infty$ $\lim_{x \to -\infty} f(x) = -\infty$	$\lim_{x \to \infty} f(x) = 0$ $\lim_{x \to -\infty} f(x) = 0$	$\lim_{x \to \infty} f(x) = \infty$ $\lim_{x \to -\infty} f(x) = DNE$	$\lim_{x \to \infty} f(x) = \infty$ $\lim_{x \to -\infty} f(x) = \infty$