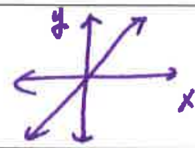
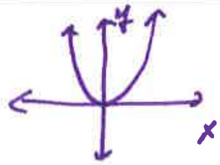
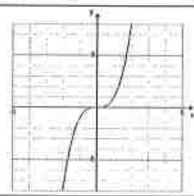
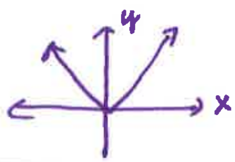
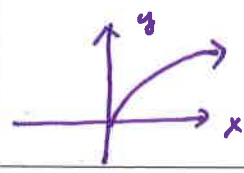
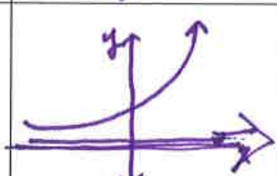
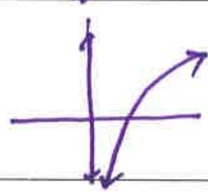
IB Math IB Pre HL : Intro to Chapter 5 Name: ______________________ Date: ____________

Fill in the chart of the following parent functions:

Parent Name:	Parent Equation:	Sketch:	Key Points:	Domain/Range
Linear	$f(x) = x$		x-int. $(0,0)$ y-int. $(0,0)$	D: $x \in \mathbb{R}$ R: $y \in \mathbb{R}$
Quadratic	$f(x) = x^2$		Vertex $(0,0)$	D: $x \in \mathbb{R}$ R: y: $[0, \infty)$
Cubic	$f(x) = x^3$		x-int: $(0,0)$ y-int: $(0,0)$	D: $x \in \mathbb{R}$ R: $y \in \mathbb{R}$
Modulus	$f(x) = \|x\|$		Vertex $(0,0)$	D: $x \in \mathbb{R}$ R: $[0, \infty)$
Square Root	$f(x) = \sqrt{x}$		X and y intercepts $(0,0)$	D: $[0, \infty)$ R: $[0, \infty)$
Exponential	$f(x) = 2^x$		$\left(-1, \frac{1}{2}\right), (0,1), (1,2),$ and asymptote: $y = 0$	$Domain: (-\infty, \infty)$ $Range: (0, \infty)$
Log	$f(x) = \log_2 x$		$(\frac{1}{2}, -1), (1,0)\ (2,1)$ V. A: $x=0$	D: $(0, \infty)$ R: $(-\infty, \infty)$

Describe the Following Transformations of $y = f(x)$:

1. $y = f(x) + b$, b is a constant b units up	2. $y = f(x-a)$, a is a constant a units Right
3. $y = p \cdot f(x)$, p is a postive constant Vertically Dilated by a factor of p	4. $y = f(qx)$, q is a positive constant Horizontally dilated by a factor of $\frac{1}{q}$
5. $y = -f(x)$ Reflected over x-axis	6. $y = f(-x)$ Reflected over y-axis.