**Parent Functions**

You are expected to be familiar with these functions. As background, you should know their general shape, the reference points on the functions, and be able to graph the reference points and the shape without a calculator. This sheet is provided as reference.

| **Parent Function** | **Graph** | **Parent Function** | **Graph** |
| --- | --- | --- | --- |
| **Linear**, Odd  Domain: (−∞, ∞) Range: (−∞, ∞)    Reference points:  (−1, −1), (0, 0), (1, 1) |  | **Absolute Value**, Even  Domain: (−∞, ∞) Range: [0, ∞)    Reference points:  (−1,1), (0,0), (1,1) |  |
| **Quadratic**, Even  Domain: (−∞, ∞) Range: [0, ∞)    Reference points:  (−1,1), (0,0), (1,1) |  | **Radical**(Square Root), Neither  Domain: [0, ∞) Range: [0, ∞)    Reference points:  (0,0), (1,1), (4,2) |  |
| **Cubic**, Odd  Domain: (−∞, ∞) Range: (−∞, ∞)    Reference points:  (−1, −1), (0,0), (1,1) |  | **Cube Root**, Odd  Domain: (−∞, ∞) Range: (−∞, ∞)    Reference points:  (−1, −1), (0,0), (1,1) |  |
| , b>1  **Exponential**, Neither  Domain: (−∞, ∞) Range: (0, ∞)    Reference points:  (−1,1/b), (0,1), (1, b)  Asymptote:  y=0 |  | , b>1  **Log**, Neither  Domain: (0, ∞) Range: (−∞, ∞)    Reference points:  (1/b, −1), (1,0), (b,1)  Asymptote: x=0 |  |
| **Rational (Inverse)**, Odd  Domain: (−∞,0) ∪ (0, ∞) Range: (−∞,0) ∪ (0, ∞)    Reference points:  (−1, −1), (1,1)  Asymptotes: y=0, x=0 |  | **Rational (Inverse Squared)**,           Even  Domain: (−∞,0) ∪ (0, ∞) Range: (0, ∞)    Reference points:  (−1,1), (1,1)  Asymptotes: x=0, y=0 |  |
| **Floor Function**, Neither  Domain:(−∞, ∞) Range: {y: y ∈ Z} (integers)    Reference points:  x: [−1,0) y: −1 x: [0,1) y:0 x: [1,2) y:1 |  | **Constant**, Even  Domain: (−∞, ∞) Range: {y: y=C}    Reference points:  (−1, C), (0, C), (1, C) |  |