**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**August 20th, 2012**

**AP Calculus 1, Mrs. Sulkes**

**Parent Functions**

A. For each of the following parent functions, you are to:

Provide a sketch of the graph of the function. Your graph must include any asymptotes, any intercepts, and any maximum or minimum points. Be sure to label any asymptotes, any intercepts, and any maximum or minimum points. Check your graphs using your calculator.

1.  2. 

3.  4. 

5.  6. 

7.  8. 

9.  10. 

11.  12. 

13.  14. , where is a

constant.

15. , where b > 1 16. , where 0 < b < 1

17. , where b > 1 18. , where 0 < b < 1

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**August 21st, 2012**

**AP Calculus 1, Mrs. Sulkes**

**Parent Functions**

B. Complete the table below. Refer to the functions you sketched.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Function** | **Domain** | **Range** | **Zeros** | **Symmetry**  **y-axis/origin or Neither** | **Even/Odd or Neither** | **Is the function periodic? If yes, state the period.** | **State equations of any asymptotes.** |
| 1. f(x) = x |  |  |  |  |  |  |  |
| 2. f(x) = x2 |  |  |  |  |  |  |  |
| 3. f(x) = x3 |  |  |  |  |  |  |  |
| 4. f(x) = |x| |  |  |  |  |  |  |  |
| 5. f(x) = sin x |  |  |  |  |  |  |  |
| 6. f(x) = cos x |  |  |  |  |  |  |  |
| 7. f(x) = tan x |  |  |  |  |  |  |  |
| 8. f(x) = sec x |  |  |  |  |  |  |  |
| 9. f(x) = ex |  |  |  |  |  |  |  |
| 10. f(x) = ln x |  |  |  |  |  |  |  |
| 11. f(x) = 1/x |  |  |  |  |  |  |  |
| 12. f(x) = 1/x2 |  |  |  |  |  |  |  |
| 13. f(x) = |  |  |  |  |  |  |  |
| 14. f(x) = |  |  |  |  |  |  |  |
| 15. f(x) = bx  b > 1 |  |  |  |  |  |  |  |
| 16. f(x) = bx,  0 < b < 1 |  |  |  |  |  |  |  |
| 17. f(x) = logb x,  b > 1 |  |  |  |  |  |  |  |
| 18. f(x) = logbx,  0 < b < 1 |  |  |  |  |  |  |  |