**Practice – Parent Functions pp 67,69**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_

**Plot the points and decide which Parent Function best fits the given table of values.**

1. The data in the table below shows the height of a ball being thrown. Plot the points and determine the name and the equation of the parent function that best represents the data.



|  |
| --- |
| Parent Function Name:  Parent Function Equation: |

|  |  |
| --- | --- |
| time | height |
| 0 | 3 |
| 1 | 5.1 |
| 3 | 6.9 |
| 4 | 6.6 |
| 7 | .9 |

2.

|  |
| --- |
| Parent Function Name:  Parent Function Equation: |

|  |  |
| --- | --- |
| *x* | *y* |
| -1 | 7 |
| 1 | 5 |
| 3 | 3 |
| 4 | 4 |
| 6 | 6 |

3.

|  |
| --- |
| Parent Function Name:  Parent Function Equation: |

|  |  |
| --- | --- |
| *x* | *y* |
| -3 | 1 |
| -2 | 2 |
| 1 | 3 |
| 6 | 4 |

**List all Parent Functions that meet the following criteria:**

4. Increasing on the interval : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Range is :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Has rotational symmetry: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Is symmetrical about the line*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Has no concavity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The Constant Parent Function is given by the equation , where *c* is any real number. Complete the following table of information for this parent function. \**Hint: pick a value of c to help you.\**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name | | Critical Points   |  |  | | --- | --- | | *x* | *y* | |  |  | |  |  | |  |  | |  |  | |  |  | | Graph |
| Equation | |
| Domain | Range |
| Increasing | Decreasing |
|  |  |
| Concavity | Symmetry |

9b. Is a function? Why or why not?

**Determine the Parent Function of each graph and describe the changes that were made to the Parent Function to create the new graph.**

10. 11.



Parent Function:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent Function:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Compare and contrast the Linear Parent Function and the Cube Root Parent Function.

Similarities: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Differences: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_