**What’s a parabola? And what are its key features?** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mr. John created two marble paint paths and created a table of values for each marble roll.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MARBLE ROLL ONE** | |  | **MARBLE ROLL TWO** | |
| Horizontal distance from the origin in inches | Vertical Distance from the origin in inches |  | Horizontal distance from the origin in inches | Vertical Distance from the origin in inches |
| -3 | 13.18 |  | -4 | -7.586 |
| -1 | -2.34 |  | -2 | -0.338 |
| 1.5 | -15.89 |  | -0.5 | 4.153 |
| 2 | -17.82 |  | 2 | 9.838 |
| 3.5 | -22.05 |  | 3.5 | 12.169 |
| 5 | -23.94 |  | 4 | 12.766 |
| 7.5 | -21.89 |  | 5.5 | 14.017 |
| 9.5 | -15.57 |  | 7 | 14.458 |
| 11 | -8.1 |  | 8.5 | 14.089 |
| 12 | -1.82 |  | 10.5 | 12.337 |

For MARBLE ROLL ONE:

Enter the points into the graphing calculator and set up the appropriate window.

What is the equation of best fit for this marble roll?

Use your graphing calculator and the calculator instruction sheet to find the important features of the graph;   
(Use: Find a value of Y; Find a zero; Find a maximum or minimum)

1. shape
2. y-intercept

1. x-intercept(s)
2. axis of symmetry
3. vertex (minimum)

For MARBLE ROLL TWO:

Enter the points into the graphing calculator and set up the appropriate window.

What is the equation of best fit for this marble roll?

Use your graphing calculator and the calculator instruction sheet to find the important features of the graph;   
(Use: Find a value of Y; Find a zero; Find a maximum or minimum)

1. shape
2. y-intercept
3. x-intercept(s)
4. axis of symmetry
5. vertex (maximum)