

A ball is thrown from the top of a building. The table below shows the height of a ball above the ground at one-second intervals. Determine whether the set of data represents a linear, quadratic, or exponential function.

Time in seconds, $x$	Height in meters, $f(x)$
0	100
1	105.1
2	100.4
3	85.9
4	61.6
5	27.5

The total amount in a savings account is shown in the table. Determine whether the interest that is being earned in the savings account follows a linear, quadratic, or exponential function.

1-Year Interval, $x$	Total Amount in Dollars, $f(x)$
0	500
1	530
2	561.80
3	595.51
4	631.24

Possum Kingdom Lake in Palo Pinto County, Texas, was the setting for a world-class cliff diving in 2014. The champion diver's approximate position during the dive is recorded in the table.

Distance away from the Cliff in Meters, $x$	Height above the Water in Meters, $f(x)$
0	27
1	28.1
2	27.4
3	24.8
4	20.0
5	12.9

Data Source: Redbullcliffdiving.com

Use the data set to generate a quadratic function that best models the data.

Use the table to estimate the height of the cliff, the height of the diver at his highest point, and his distance from the cliff when he entered the water.