Scatterplot Model of Best Fit Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Determine the mathematical model that best fits the given data (linear, quadratic, cubic or exponential). Write the r or r2 values for each and the equation for the model of best fit.

1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  X | 1 | 2 | 3 | 4 | 5 | 6 |
| Y | 5 | 7 | 9 | 11 | 13 | 15 |

 Linear\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quadratic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Cubic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exponential\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  X | 1 | 2 | 3 | 4 | 5 | 6 |
| Y | 2 | 4 | 8 | 16 | 32 | 64 |

 Linear\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quadratic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Cubic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exponential\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  X | 1 | 2 | 3 | 4 | 5 | 6 |
| Y | 1 | 7 | 17 | 31 | 49 | 71 |

Linear\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quadratic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Cubic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exponential\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  X | 1 | 2 | 3 | 4 | 5 | 6 |
| Y | 49.3 | 70.2 | 71.8 | 82.6 | 110.4 | 135.6 |

Linear\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quadratic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Cubic\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exponential\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. An experiment in a physics class involves dropping a golf ball and recording the distance (in meters) it falls for different times (in seconds) after it was released. The data are given in the table below. Project the distance for a time of 12 seconds, given that the golf ball is dropped from a building that is 50 meters tall.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Time | 0 | .5 | 1 | 1.5 | 2 | 2.5 | 3 |
| Distance | 0 | 1.2 | 4.9 | 11.0 | 19.5 | 30.5 | 44.0 |

Equation you used\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Distance fallen at 12 seconds\_\_\_\_\_\_\_\_\_\_