**Unit 3: Mathematical Models - Mid-Unit Review**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | y | First Difference | Second Difference | Finite Ratio (**of the y-values)** |
| -1 | -3 |  |  |  |
| 0 | 0 |
| 1 | 3 |
| 2 | 6 |
| 3 | 9 |



CIRCLE THE TYPE OF RELATIONSHIP:

QUADRATIC, EXPONENTIAL, LINEAR

, ,

Choose the correct equation above and make an algebraic model for the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | y | First Difference | Second Difference | Finite Ratio (**of the y-values)** |
| -1 | 3 |  |  |  |
| 0 | 0 |
| 1 | 3 |
| 2 | 12 |
| 3 | 27 |



CIRCLE THE TYPE OF RELATIONSHIP:

QUADRATIC, EXPONENTIAL, LINEAR

, ,

Choose the correct equation above and make an algebraic model for the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | y | First Difference | Second Difference | Finite Ratio (**of the y-values)** |
| -1 | 0.66666 |  |  |  |
| 0 | 2 |
| 1 | 6 |
| 2 | 18 |
| 3 | 54 |

CIRCLE THE TYPE OF RELATIONSHIP:

QUADRATIC, EXPONENTIAL, LINEAR

, ,

Choose the correct equation above and make an algebraic model for the table.

What will the y-value be when x=7?



Which of the three types of relationships has the largest growth rate?

Which has a CONSTANT rate of change?

Which have CHANGING rate of change?

**Review of Working with Exponents**

Write as a **single power** and then **simplify**.

Evaluate each expression if a=1, b=-2.