 Matching activity for simple exponential growth and decay

Activity:

Match the initial condition, an additional data point, dN/dt and the exponential equation.

Note: k values have been rounded to 4 decimal places.

Initial condition

|  |  |  |  |
| --- | --- | --- | --- |
| When t = 0, N = 40 | When t = 0, N = 40 | When t = 0, N = 40 | When t = 0, N = 40 |
| When t = 0, N = 55 | When t = 0, N = 55 | When t = 0, N = 55 | When t = 0, N = 55 |

Additional data point

|  |  |  |  |
| --- | --- | --- | --- |
| When t = 10, N = 45 | When t = 15, N = 22 | When t = 11, N = 62 | When t = 5, N = 51 |
| When t = 11, N = 43 | When t = 5, N = 30 | When t = 15, N = 73 | When t = 20, N = 60 |

Exponential equation

|  |  |  |  |
| --- | --- | --- | --- |
| N = 55e0.0189t | N = 55e0.0109t | N = 40e0.0203t | N = 55e-0.0224t |
| N = 40e-0.0399t | N = 40e-0.0575t | N = 40e0.0118t | N = 55e-0.0151t |

dN/dt

|  |  |  |  |
| --- | --- | --- | --- |
| dN/dt = 0.0189t | dN/dt = 0.0109t | dN/dt = -0.0575t | dN/dt = -0.0151t |
| dN/dt = -0.0224t | dN/dt = 0.0203t | dN/dt = -0.0399t | dN/dt = 0.0118t |