



Exponential Function Solving - Decay (Continuous) Scenario to Starting Value

1

What is the value of the starting concentration given this scenario?

A radioactive material starts at a certain isotope concentration. It decays continuously at 9% per day. After 3 days it has decayed to an isotope concentration of 305ppm.

$$^A R_0 = 100 \quad ^B R_0 = 500$$

$$^C R_0 = 400 \quad ^D R_0 = 200$$

2

What is the value of the starting concentration given this scenario?

A toxin starts at a certain concentration. It declines continuously at 2% per day. After 6 days it has decreased to a concentration of 620mg/L.

$$^A C_0 = 800 \quad ^B C_0 = 900$$

$$^C C_0 = 400 \quad ^D C_0 = 700$$

3

What is the value of the starting concentration given this scenario?

A toxin starts at a certain concentration. It declines continuously at 6% per week. After 9 weeks it has decreased to a concentration of 291mg/L.

$$^A C_0 = 400 \quad ^B C_0 = 800$$

$$^C C_0 = 500 \quad ^D C_0 = 600$$

4

What is the value of the starting population given this scenario?

A bacteria population starts at a certain size. It declines continuously at 6% per week. After 3 weeks it has decreased to a population of 584 bacteria.

$$^A P_0 = 900 \quad ^B P_0 = 800$$

$$^C P_0 = 700 \quad ^D P_0 = 500$$

5

What is the value of the starting population given this scenario?

A whale population starts at a certain size. It declines continuously at 3% per quarter. After 7 quarters it has decreased to a population of 162 whales.

$$^A P_0 = 300 \quad ^B P_0 = 500$$

$$^C P_0 = 400 \quad ^D P_0 = 200$$

6

What is the value of the starting concentration given this scenario?

A radioactive material starts at a certain isotope concentration. It decays continuously at 9% per week. After 7 weeks it has decayed to an isotope concentration of 213ppm.

$$^A R_0 = 100 \quad ^B R_0 = 200$$

$$^C R_0 = 300 \quad ^D R_0 = 400$$

7

What is the value of the starting concentration given this scenario?

A toxin starts at a certain concentration. It declines continuously at 7% per day. After 8 days it has decreased to a concentration of 171mg/L.

$$^A C_0 = 400 \quad ^B C_0 = 500$$

$$^C C_0 = 300 \quad ^D C_0 = 200$$

8

What is the value of the starting population given this scenario?

A bird population starts at a certain size. It declines continuously at 3% per year. After 2 years it has decreased to a population of 565.

$$^A P_0 = 600 \quad ^B P_0 = 400$$

$$^C P_0 = 300 \quad ^D P_0 = 900$$