Exponential Function Decay (Continuous) - Scenario to Equation

1

A radioactive material starts at an isotope concentration of 700ppm. It decays continuously at 2% per hour. After 8 hours it has decayed to an isotope concentration of 596ppm.

Which equation describes this scenario?

A $596 = 700 \cdot e^{(-0.02 \cdot 8)}$	B $596 = 200 \cdot e^{(-0.07 \cdot 8)}$
C $596 = 700 \cdot e^{(-0.08 \cdot 2)}$	D $596 = 800 \cdot e^{(-0.02 \cdot 7)}$

2

A radioactive material starts at an isotope concentration of 200ppm. It decays continuously at 7% per day. After 5 days it has decayed to an isotope concentration of 140ppm.

Which equation describes this scenario?

A $140 = 500 \cdot e^{(-0.07 \cdot 2)}$
B $140 = 200 \cdot e^{(-0.07 \cdot 5)}$

3

A radioactive material starts at an isotope concentration of 400ppm. It decays continuously at 6% per hour. After 2 hours it has decayed to an isotope concentration of 354ppm.

Which equation describes this scenario?

A $354 = 200 \cdot e^{(-0.06 \cdot 4)}$	B $354 = 400 \cdot e^{(-0.02 \cdot 6)}$
C $354 = 400 \cdot e^{(-0.06 \cdot 2)}$	

4

A bird population starts at 200. It declines continuously at 5% per quarter. After 7 quarters it has decreased to a population of 140.

Which equation describes this scenario?

A $140 = 200 \cdot e^{(-0.05 \cdot 7)}$	B $140 = 700 \cdot e^{(-0.05 \cdot 2)}$
C $140 = 500 \cdot e^{(-0.02 \cdot 7)}$	D $140 = 200 \cdot e^{(-0.07 \cdot 5)}$

5

A bird population starts at 300. It declines continuously at 9% per quarter. After 6 quarters it has decreased to a population of 174.

Which equation describes this scenario?

A $174 = 600 \cdot e^{(-0.09 \cdot 3)}$	B $174 = 300 \cdot e^{(-0.06 \cdot 9)}$
C $174 = 300 \cdot e^{(-0.09 \cdot 6)}$	D $174 = 900 \cdot e^{(-0.03 \cdot 6)}$

6

A bird population starts at 600. It declines continuously at 2% per year. After 5 years it has decreased to a population of 542.

Which equation describes this scenario?

A $542 = 500 \cdot e^{(-0.02 \cdot 6)}$	B $542 = 600 \cdot e^{(-0.02 \cdot 5)}$
C $542 = 600 \cdot e^{(-0.05 \cdot 2)}$	

7

A radioactive material starts at an isotope concentration of 800ppm. It decays continuously at 9% per hour. After 2 hours it has decayed to an isotope concentration of 668ppm.

Which equation describes this scenario?

A $668 = 200 \cdot e^{(-0.09 \cdot 8)}$	B $668 = 800 \cdot e^{(-0.09 \cdot 2)}$
C $668 = 900 \cdot e^{(-0.08 \cdot 2)}$	

8

A bird population starts at 200. It declines continuously at 4% per year. After 5 years it has decreased to a population of 163.

Which equation describes this scenario?

A $163 = 200 \cdot e^{(-0.04 \cdot 5)}$	B $163 = 400 \cdot e^{(-0.02 \cdot 5)}$
C $163 = 500 \cdot e^{(-0.04 \cdot 2)}$	

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