



Exponential Function Solving - Decay (Continuous) Scenario to Rate

1

What is the value of the rate given this scenario?

A bacteria population starts at 800. It declines continuously at a certain percent per week. After 6 weeks it has decreased to a population of 668 bacteria.

- | | |
|-------------|-------------|
| A $r = 4\%$ | B $r = 2\%$ |
| C $r = 8\%$ | D $r = 3\%$ |
| | |

2

What is the value of the rate given this scenario?

A whale population starts at 900. It declines continuously at a certain percent per year. After 5 years it has decreased to a population of 634 whales.

- | | |
|-------------|--------------|
| A $r = 7\%$ | B $r = 10\%$ |
| C $r = 3\%$ | D $r = 5\%$ |
| | |

3

What is the value of the rate of decay given this scenario?

A radioactive material starts at an isotope concentration of 600ppm. It decays continuously at a certain percent per hour. After 5 hours it has decayed to an isotope concentration of 542ppm.

- | | |
|-------------|-------------|
| A $r = 4\%$ | B $r = 2\%$ |
| C $r = 7\%$ | D $r = 6\%$ |
| | |

4

What is the value of the rate given this scenario?

A bird population starts at 900. It declines continuously at a certain percent per year. After 4 years it has decreased to a population of 680.

- | | |
|-------------|--------------|
| A $r = 7\%$ | B $r = 12\%$ |
| C $r = 3\%$ | D $r = 9\%$ |
| | |

5

What is the value of the rate given this scenario?

A bird population starts at 800. It declines continuously at a certain percent per year. After 4 years it has decreased to a population of 558.

- | | |
|--------------|--------------|
| A $r = 11\%$ | B $r = 10\%$ |
| C $r = 7\%$ | D $r = 9\%$ |
| | |

6

What is the value of the rate of decay given this scenario?

A radioactive material starts at an isotope concentration of 500ppm. It decays continuously at a certain percent per day. After 3 days it has decayed to an isotope concentration of 443ppm.

- | | |
|-------------|-------------|
| A $r = 1\%$ | B $r = 7\%$ |
| C $r = 4\%$ | D $r = 3\%$ |
| | |

7

What is the value of the rate given this scenario?

A toxin starts at a concentration of 200mg/L. It declines continuously at a certain percent per month. After 7 months it has decreased to a concentration of 140mg/L.

- | | |
|-------------|--------------|
| A $r = 5\%$ | B $r = 10\%$ |
| C $r = 1\%$ | D $r = 2\%$ |
| | |

8

What is the value of the rate given this scenario?

A toxin starts at a concentration of 200mg/L. It declines continuously at a certain percent per week. After 4 weeks it has decreased to a concentration of 145mg/L.

- | | |
|--------------|--------------|
| A $r = 8\%$ | B $r = 7\%$ |
| C $r = 12\%$ | D $r = 13\%$ |
| | |