

mobius

Exponential Function Solving - Decay (Continuous) Equation to Rate



Solve for the rate given this model of a continuous decline of a whale population?

$$226 = 300 \cdot e^{(-r \cdot 7)}$$

Solve for the rate given this model of a continuous reduction of a toxin concentration?

$$736 = 900 \cdot e^{(-r \cdot 4)}$$

| Α | $0+r=-rac{\lnrac{P_0}{P}}{t}$ | В | $1+r=-rac{{\sf In}rac{P_0}{P}}{t}$ | А | $9+r=-rac{e^{rac{C_0}{C_0}}}{t}$ | В | $r=-rac{\lnrac{C}{C_0}}{t}$ |
|---|------------------------------------|---|--------------------------------------|---|------------------------------------|---|------------------------------------|
| С | $r=-rac{{\sf ln}rac{P}{P_0}}{t}$ | D | $3+r=-rac{\lnrac{P_0}{P}}{t}$ | С | $3+r=-rac{\lnrac{C_0}{C}}{t}$ | D | $8+r=-rac{e^{rac{C_0}{C_0}}}{t}$ |
| | | | | | | | |

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3 Solve for the rate of decay given this model of a continuous decay of a radioactive material?

$$584 = 700 \cdot e^{(-r \cdot 2)}$$

Solve for the rate given this model of a continuous decline of a bird population?

$$511=600\cdot e^{(-r\cdot 8)}$$

$$r=-rac{\mathsf{ln}\,rac{R}{R_0}}{t}egin{smallmatrix} \mathsf{B} \ \mathsf{s}+r=-rac{e^{rac{R}{R_0}}}{t}egin{smallmatrix} \mathsf{C} \ \mathsf{O}+r=-rac{e^{rac{R}{R_0}}}{t}egin{smallmatrix} \mathsf{1}+r=-rac{e^{rac{R}{R_0}}}{t}egin{smallmatrix} \mathsf{A} \ \mathsf{F}+r=-rac{\mathsf{ln}\,rac{P_0}{P}}{t} \ \end{pmatrix}^{\mathsf{B}} \quad r=-rac{\mathsf{ln}\,rac{P}{P_0}}{t} \ \end{pmatrix}^{\mathsf{B}}$$

5 Solve for the rate given this model of a a continuously declining bacteria population?

$$610 = 800 \cdot e^{(-r \cdot 9)}$$

Solve for the rate given this model of a a continuously declining bacteria population?

$$201 = 300 \cdot e^{(-r \cdot 5)}$$

| Α | $6+r=-rac{\lnrac{P_0}{P}}{t}$ | В | $2+r=-rac{\lnrac{E_0}{P}}{t}$ | Α | $1+r=-rac{e^{rac{P}{P_0}}}{t}$ | В | $9+r=-rac{e^{rac{P}{	au_0}}}{t}$ |
|---|---------------------------------|---|----------------------------------|---|----------------------------------|---|------------------------------------|
| С | $r=-rac{\lnrac{P}{P_0}}{t}$ | D | $7+r=-rac{e^{rac{P}{P_0}}}{t}$ | С | $6+r=-rac{\lnrac{P_0}{P}}{t}$ | D | $r=-rac{\lnrac{P}{P_0}}{t}$ |
| | | | | | | | |

7 Solve for the rate given this model of a continuous decline of a whale population?

Solve for the rate given this model of a continuous reduction of a toxin concentration?

$$167 = 200 \cdot e^{(-r \cdot 3)}$$

$$145 = 200 \cdot e^{(-r \cdot 8)}$$

| Α | $4+r=-rac{\lnrac{P_0}{P}}{t}$ | В | $8+r=-rac{\lnrac{P_0}{P}}{t}$ | Α | $9+r=-rac{e^{rac{C}{C_0}}}{t}$ | В | $r=-rac{\lnrac{C}{C_0}}{t}$ |
|---|---------------------------------|---|----------------------------------|---|----------------------------------|---|---------------------------------|
| С | $r=-rac{\lnrac{P}{P_0}}{t}$ | D | $5+r=-rac{e^{rac{P}{P_0}}}{t}$ | С | $0+r=-rac{\lnrac{C_0}{C}}{t}$ | D | $1+r=-rac{\lnrac{C_0}{C}}{t}$ |
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