Name

Exponential Function Solving - Decay (Continuous) - Equation to Time

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

$$753 = 800 \cdot e^{(-0.02 \cdot t)}$$

A $t = -\frac{r}{\ln \frac{P}{P_0}}$

B $t = -\frac{\ln \frac{P}{P_0}}{r}$

C $t = -\frac{\ln P \cdot P_0}{r}$

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

$$596 = 700 \cdot e^{(-0.08 \cdot t)}$$

A $t = -\frac{\ln P \cdot P_0}{r}$

B $t = -\frac{r}{\ln \frac{P}{P_0}}$

C $t = -\frac{\ln \frac{P}{P_0}}{r}$

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

$$268 = 400 \cdot e^{(-0.05 \cdot t)}$$

A $t = -\frac{\ln \frac{R}{R_0}}{r}$

B $t = -\frac{r}{\ln \frac{R}{R_0}}$

C $t = -\frac{\ln R \cdot R_0}{r}$

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

$$292 = 600 \cdot e^{(-0.09 \cdot t)}$$

A $t = -\frac{\ln P \cdot P_0}{r}$

B $t = -\frac{r}{\ln \frac{P}{P_0}}$

C $t = -\frac{\ln \frac{P}{P_0}}{r}$

5 Solve for the time given this model of a continuous decay of a radioactive material?

$$556 = 900 \cdot e^{(-0.08 \cdot t)}$$

A $t = -\frac{\ln R \cdot R_0}{r}$

B $t = -\frac{\ln \frac{R}{R_0}}{r}$

6 Solve for the time given this model of a continuous decay of a radioactive material?

$$620 = 700 \cdot e^{(-0.06 \cdot t)}$$

A $t = -\frac{\ln \frac{R}{R_0}}{r}$

B $t = -\frac{\ln R \cdot R_0}{r}$

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

$$620 = 700 \cdot e^{(-0.04 \cdot t)}$$

A $t = -\frac{r}{\ln \frac{P}{P_0}}$

B $t = -\frac{\ln \frac{P}{P_0}}{r}$

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

$$591 = 900 \cdot e^{(-0.07 \cdot t)}$$

A $t = -\frac{\ln \frac{P}{P_0}}{r}$

B $t = -\frac{r}{\ln \frac{P}{P_0}}$