Looks like "Parent"

Compounding Formulas:

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

Key Words: "Compounded *daily, monthly, quarterly, semi-annually, yearly* **"**

anything but continuously!

You deposit $7550 into an account that pays 7.25% interest, compounded continuously. How long will it take the money to triple?

$3 \times 7550 = 22650$

$\frac{22650}{7550} = \frac{7550e^{.0725t}}{7550}$

$\ln 3 = \ln e^{.0725t}$

$\frac{\ln 3}{.0725} = \frac{.0725t}{.0725}$

$t = \frac{\ln 3}{.0725} = 15.15$

about 15.2 years

Solving for P

Determine the principal that will yield $200,000 when invested at 8% compounded daily for 20 years.

$A = P\left(1 + \frac{r}{n}\right)^{nt}$ 365

$200{,}000 = P\left(1 + \frac{.08}{365}\right)^{365(20)}$

$\frac{200{,}000}{\left(1 + \frac{.08}{365}\right)^{365(20)}} = P$

$P = \$40{,}386.38$

A total of $12,000 is invested at an annual interest rate of 9%. Find the balance after 5 years if it is compounded

a. Quarterly: $A = 12000\left(1 + \frac{.09}{4}\right)^{4(5)}$ $n=4$

$\$18726.11$

b. Monthly: $A = 12000\left(1 + \frac{.09}{12}\right)^{12(5)}$ $n=12$

$\$18788.17$

c. Continuously: Pert

$A = 12000e^{.09(5)}$

$= \$18{,}819.75$