
The function giving the value of an initial amount P_0 invested at a rate r compounded n times a year is

$$P(y) = P_0 \left(1 + \frac{r}{n}\right)^{ny}$$

and if the rate r is compounded continuously then

$$P(y) = P_0(e^r)^y$$

- (1) Find 10% of 2.5 million.

- (2) Increase 450 by a factor of 3.4

- (3) If after 1 year you earn \$130 in annually compounded interest on \$15,000 what interest rate are you receiving?

- (4) Suppose you get a 2.1% annual return on an investment where the interest is compounded quarterly. What is the APR, or the original annual rate? (Set up an equation involving the above formula and solve)

Which investment will be worth more in five years:
\$10,000 invested at a continuously compounded rate of 9.8%
or \$10,000 invested at a bi-annually (twice a year) compounded rate of 10.04% ?