

Money Doubling Example 21

Problem: If it takes $5 \frac{1}{4}$ years to double your money, with monthly compounding, what is the p.a. interest rate?

Solution: Let r be the required p.a. interest rate. Then, as shown in the article "Doubling Your Money in a Given Amount of Time",

$$r = N \left(\exp \left(\frac{\log(2)}{n} \right) - 1 \right)$$

where N is the number of compounding periods per year, and the term consists of n periods. In this case, $N = 12$ and $n = (5 \frac{1}{4}) \times (12) = 63$.

Thus,

$$r = 12 \left(\exp \left(\frac{\log(2)}{63} \right) - 1 \right).$$

Thus, $r = 13.276\%$

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