Answer on Question #62850 Economics / Finance

A financial analyst tells you that investing in stocks will allow you to double your money in 7 years. What annual rate of return is the analyst assuming you can earn?

Solution:

Assuming returns are reinvested, due to the effect of compounding, the relationship between a rate of return r, and a return R over a period of length t is:

$$1 + R = (1 + r)^t$$

Considering a period of t = 7 years, we have the value of return R = 1 (or 100%).

Let's substitute the values of t and R to the equality above and solve the equation for r.

$$1 + 1 = (1 + r)^7$$

$$2 = (1 + r)^7$$

$$\sqrt[7]{2} = 1 + r$$

$$\sqrt[7]{2} - 1 = r$$

$$r \approx 0.1041$$

Answer: The analyst assuming that you can earn 0.1041 (or 10.41%) annual rate of return.