A rich uncle wants to make you a millionaire. How much money must he deposit in a trust fund paying 7% compounded continuously at the time of your birth to yield $1,000,000 when you retire at age 62?

$1,000,000=Pe^{(.07x62)}$

Not sure how to eliminate the Pe in order to bring down the (.07x62) and eventually divide 1,000,000 by it.

Solution:

We have

$$a = p \cdot \exp(b \cdot t),$$

where

$a = 1,000,000; b = 0.07; t = 62; p$ is the value of deposit. Thus we have

$$p = \frac{a}{\exp(b \cdot t)} = \frac{1,000,000}{\exp(0.07 \cdot 62)} = \frac{1,000,000}{\exp(4.34)} \approx 13036.53 \ (\$)$$

Answer: 13036.53 $