If one makes 100k per year and gets a 5% increase per year, how much are they making per year at the end of 20 years?

Solution:

This is the most basic formula:

$$FV = PV(1 + i)^n$$

In this formula i is the effective interest rate per period. FV and PV represent the future and present value of a sum. n represents the number of periods.

In our task we have $i = 0.05$, $PV = 100{,}000$, and $n = 20$

$$FV = 100{,}000 * (1 + 0.05)^{20} = 265{,}330$$

Answer: 265,330 $