

stream of income/constant rate $I(t) = 2000$ dollars/year / annual interest rate $r = 0,12$

$$\Rightarrow \text{present value of total income during next 5 years } \frac{2000}{0,12} (1 - e^{-0,6})$$

annual income rate $I(t)$

$$\text{total income } \int_0^T I(t) dt$$

$$\text{present value } \int_0^T I(t) e^{-rt} dt$$

$$2000 \int_0^5 e^{-0,12t} dt = 2000 \left. \frac{e^{-0,12t}}{-0,12} \right|_0^5 = 2000 \left(\frac{e^{-0,6}}{-0,12} - \frac{1}{-0,12} \right) = \frac{2000}{0,12} (1 - e^{-0,6})$$