

Ex 1 Marginal sales for a company t years into the future are estimated to be given by $s(t) = \frac{160}{(t+1)^2}$ thousand units sold per year. Determine the net change in sales...

(a) ...over the next three years.

(b) ...in the long run.

Ex 2 When a political campaign puts out an ad, t weeks later, the advertisement is being seen at a rate of $600te^{-2t}$ thousand new viewers per week. How many new viewers should the political campaign expect to see the ad in the long run?

Ex 3 Uday wishes to endow a scholarship at a local college with a gift that provides a continuous income stream at the rate of $25000 + 1200t$ dollars per year in perpetuity. Assuming the prevailing annual interest rate stays fixed at 5% compounded continuously, what donation is required to finance the endowment?