

Homework 1

Econ 705 Spring 2016

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1. Let Y be GDP of Sweden. In 1950 it was 3 trillion Krona; by 2010 it had grown to 5 trillion Krona. Calculate g , the average *exponential* growth rate of Y .
2. If $x = k^\alpha$ and k is growing at a steady exponential rate of .05 — and $\alpha = .5$ — how fast is x growing?
3. Let $y = \frac{Y}{L}$ be GDP per worker. If Y is growing at the exponential rate .06 and the workforce is growing at the rate .02, how fast is y growing?
4. Let $x = \left(\frac{K}{L}\right)^\beta$. Find the natural log of x ($\ln x$) in terms of β , $\ln K$, and $\ln L$.