

The Solow model assumes the following:

$$k \equiv \frac{K}{AL},$$

$$\dot{K} = sY - \delta K,$$

$$\frac{\dot{L}}{L} = n,$$

$$\frac{\dot{A}}{A} = g,$$

$$y \equiv \frac{Y}{AL} = f(k).$$

Show that $\dot{k} = sf(k) - (n + g + \delta)k$.

(Hint: Start with $\frac{\dot{k}}{k} = \frac{\dot{K}}{K} - \frac{\dot{A}}{A} - \frac{\dot{L}}{L}$.)