Exercise 4

Problem 1: Consider the heterogeneous firm trade model as pioneered by Melitz (Econometrica 2003):

a) Assume that productivity is drawn from a Pareto distribution, that is the density function takes the form

$$g(\varphi) = \frac{k(\varphi_m)^k}{\varphi^{k+1}} \tag{1}$$

where φ_m is the lower bound of the support. The cdf is thus of the form

$$G(\varphi) = 1 - (\frac{\varphi_m}{\varphi})^k \tag{2}$$

Formally derive the entry and export market cutoffs φ^* and φ_x^* as well as the equilibrium number of firms, and show how these variables respond to changes in the trade cost, both variable and fixed.