DISCUSSION FOR EIGHTH TUTORIAL

When I walk quickly up a moving escalator at the entrance into the subway then I find that I climb 25 steps and it takes me 60 seconds to reach the top. When I walk at a normal pace I find that I only take 20 steps and 72 seconds to reach the top. There is a also a set of stairs right next to the escalator that are the same height as the escalator steps. How many are there?

Try to analyze the escalator as completely as possible. How many steps does one have to climb if the escalator is climbed faster or slower?

Now generalize this problem in a way that allows you to find the number of stairs on the escalator as a function of the speeds and number of steps taken by two people.