Name_____ Student number_____

Assignment 5

The clamping of the plate shown allows displacement in $y-$direction. At the free edge, the plate is loaded by distributed force p. Determine the critical value p_{cr} of the distributed force making the plate to buckle. Use the approximation $w(x,y)=a_0(x/L)^2$ and assume that $N_{xx}=-p$ and $N_{yy}=N_{xy}=0$. Material parameters E, ν and thickness of the plate t are constants.