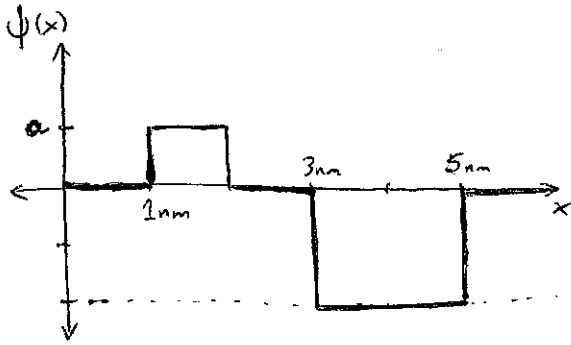


## Question 1



a) The plot at the left shows the wavefunction for an electron in a thin wire. On another graph, sketch the probability density for finding the electron.

b) For this wavefunction, what is the probability that we will find the electron between  $1\text{ nm}$  and  $2\text{ nm}$  in a measurement? What is the probability that we'll find it between  $3\text{ nm}$  and  $5\text{ nm}$ ? (*Hint: how can we figure out the value of  $a$ ?*)

c) On the original diagram, sketch a possible wavefunction for the electron immediately after we make a measurement of position.