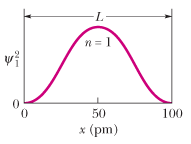
PHYS 301 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Probability in a 1D infinite potential well

http://edugen.wiley.com/edugen/courses/crs4957/halliday9118/halliday9088c39/image_n/nt0009-y.gif http://edugen.wiley.com/edugen/courses/crs4957/halliday9118/halliday9088c39/math/math010.gif



A ground-state electron is trapped in the one-dimensional infinite potential well with width *L* = 100 pm.   
a. What is the probability that the electron can be detected in the left one-third of the well (*x1* = 0 to *x2 = L*/3)?

b. What is the probability that the electron can be detected in the right one-third of the well (*x1* = 2*L*/3 to *x2 = L*)?

c. What is the probability that the electron can be detected in the middle one-third of the well?