

Act 1

Consider a particle in a 2D well, with $L_x = L_y = L$.

1. Compare the energies of the (2,2), (1,3), and (3,1) states?

a. $E_{(2,2)} > E_{(1,3)} = E_{(3,1)}$

b. $E_{(2,2)} = E_{(1,3)} = E_{(3,1)}$

c. $E_{(2,2)} < E_{(1,3)} = E_{(3,1)}$

2. If we squeeze the box in the x-direction (*i.e.*, $L_x < L_y$) compare $E_{(1,3)}$ with $E_{(3,1)}$.

a. $E_{(1,3)} < E_{(3,1)}$

b. $E_{(1,3)} = E_{(3,1)}$

c. $E_{(1,3)} > E_{(3,1)}$