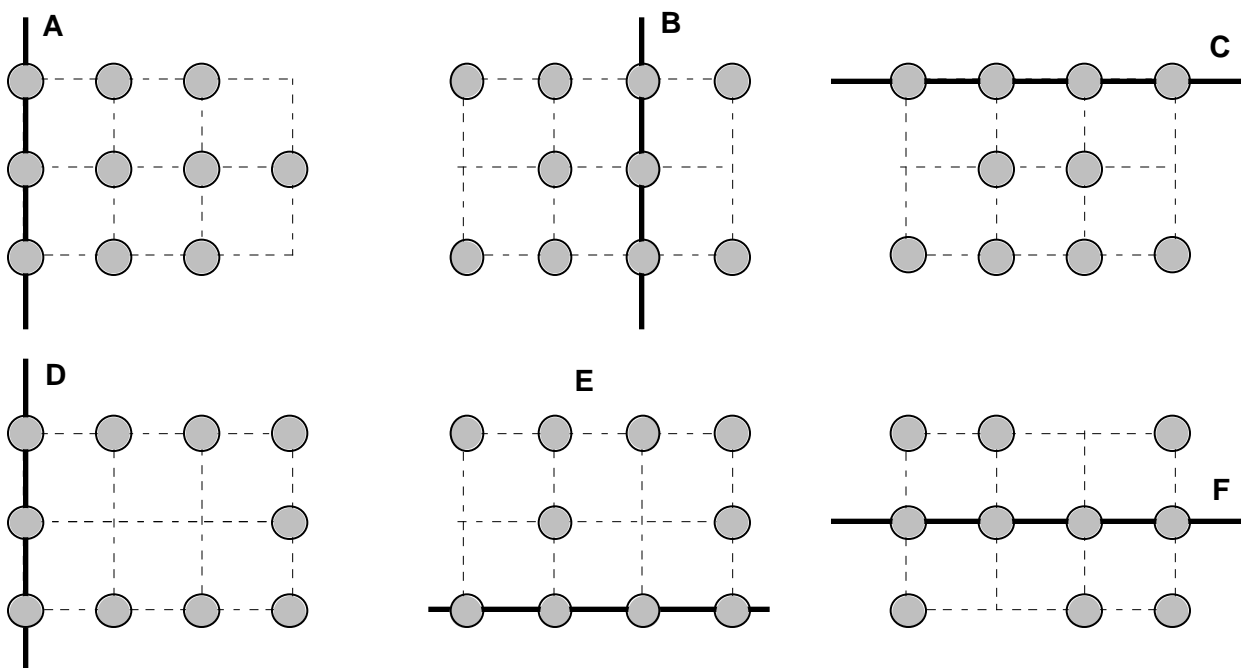


Rotating Systems of Point Masses—Center of Mass⁹⁴

Shown below are six arrangements of 10-point masses. Each of the point masses is the same size and has the same mass. Also shown in each figure is a solid line representing an axis about which the masses are going to be rotated. The point masses exert forces on each other so that they all maintain the arrangements shown while being rotated.

Rank these arrangements, from greatest to least, on the basis of the distance between the center of mass and the axis of rotation.



Greatest 1_____ 2_____ 3_____ 4_____ 5_____ 6_____ Least

Or, all of these arrangements have the same distance between the center of mass and axis of rotation .

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically Guessed

Sure

Very Sure

1 2 3 4 5 6 7 8 9 10

⁹⁴ C. Hieggelke, D. Maloney, T. O’Kuma