

35. (a) A particle contributes  $mr^2$  to the rotational inertia. Here  $r$  is the distance from the origin  $O$  to the particle. The total rotational inertia is

$$I = m(3d)^2 + m(2d)^2 + m(d)^2 = 14md^2 .$$

- (b) The angular momentum of the middle particle is given by  $L_m = I_m\omega$ , where  $I_m = 4md^2$  is its rotational inertia. Thus  $L_m = 4md^2\omega$ .
- (c) The total angular momentum is  $I\omega = 14md^2\omega$ .