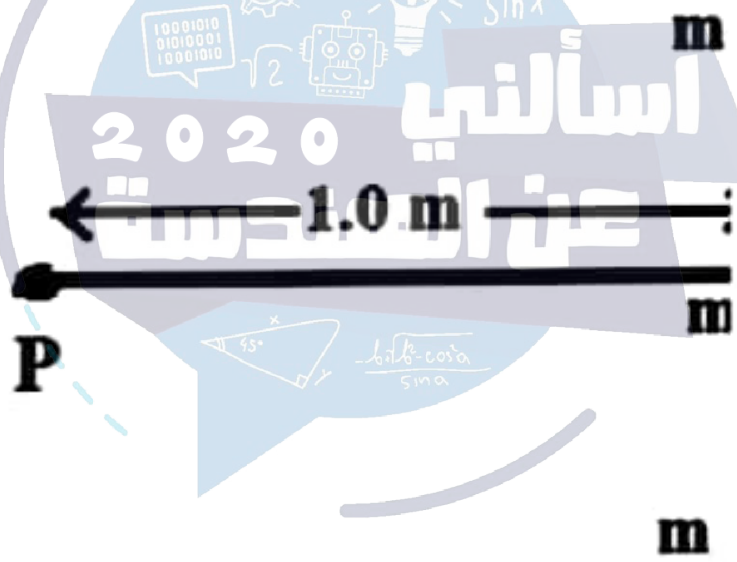
Three identical small balls each with mass 0.2 kg m are connected with massless rods as shown in the figure. The combination is rotating counterclockwise with an angular speed of 3.00 rad/s around an axis passing through the point P and perpendicular to the plane of the rods. If L = 0.3 m, then the rotational kinetic energy (in J) of the system is:



Select one:

- 0.16
- 19.5
- 2.7
- 2.9
- 2.0

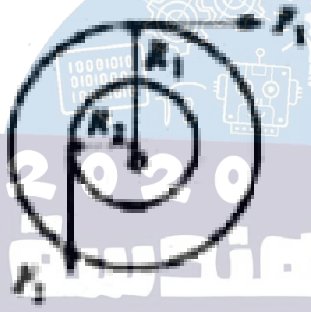
A solid disk of mass M = 4.00 kg and radius R = 0.20 m is spinning with an angular velocity $\omega = 10.0\,\text{rad/s}$. A brake is then applied which slows the wheel with an angular acceleration of magnitude $|\alpha| = 2.0\,rad/s^2$, ($I_c = \frac{1}{2}MR^2$). How large is the torque applied by the brake?

Select one:

- a. 0.08 N.m
- b. 0.8 N.m
- c. 0.04 N.m
- d. 0.4 N.m
- e. 0.16 N.m

Two forces of magnitude 50 N act on a cylinder of radius R1=6 m and R2 =4 m and mass (6.25 kg) . The cylinder rotates about fixed axis O, the total torque (in N. * :m) is

(2 نقطة)



+100

−100

−80

+80

A disc initially rotating clockwise at 3.00 rev/s makes three revolutions clockwise then 4.50 revolutions counterclockwise, all in a time of three seconds. The average angular acceleration (in rad/s^2) during this interval is:

Select one:

- 10.5
- 23.0
- 14.7
- 2.33
- 77.0

A 4 kg block starts from rest on the positive *x* axis 3 m from the origin with an acceleration given by $\vec{a} = (4i - 3j)$ m/s^2. The torque, relative to the origin, acting on it at the end of 2 s is:

Select one:

- 36 k
- -18 k
- -36 k
- 18 k
- 0