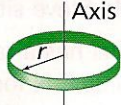
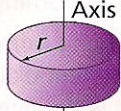

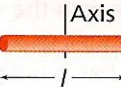
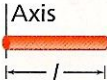
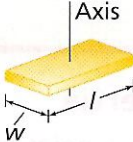


**Table 8-2**

**Moments of Inertia for Various Objects**

| Object  | Location of Axis         | Diagram   | Moment of Inertia          |
|---|--------------------------|---|----------------------------|
| Thin hoop of radius $r$                             | Through central diameter |    | $mr^2$                     |
| Solid, uniform cylinder of radius $r$               | Through center           |    | $\frac{1}{2}mr^2$          |
| Uniform sphere of radius $r$                        | Through center           |    | $\frac{2}{5}mr^2$          |
| Long, uniform rod of length $l$                     | Through center           |    | $\frac{1}{12}ml^2$         |
| Long, uniform rod of length $l$                     | Through end              |    | $\frac{1}{3}ml^2$          |
| Thin, rectangular plate of length $l$ and width $w$ | Through center           |  | $\frac{1}{12}m(l^2 + w^2)$ |