28. ***REASONING*** The moment of inertia of the stool is the sum of the individual moments of inertia of its parts. According to Table 9.1, a circular disk of radius R has a moment of inertia of $I_{\text{disk}} = \frac{1}{2} M_{\text{disk}} R^2$ with respect to an axis perpendicular to the disk center. Each thin rod is attached perpendicular to the disk at its outer edge. Therefore, each particle in a rod is located at a perpendicular distance from the axis that is equal to the radius of the disk. This means that each of the rods has a moment of inertia of $I_{\text{rod}} = M_{\text{rod}} R^2$.

SOLUTION Remembering that the stool has three legs, we find that the its moment of inertia is

$$I_{\text{stool}} = I_{\text{disk}} + 3I_{\text{rod}} = \tfrac{1}{2} M_{\text{disk}} R^2 + 3M_{\text{rod}} R^2$$

$$= \tfrac{1}{2}(1.2\ \text{kg})(0.16\ \text{m})^2 + 3(0.15\ \text{kg})(0.16\ \text{m})^2 = \boxed{0.027\ \text{kg}\cdot\text{m}^2}$$