94. From Eq. 16-23 (in absolute value) we find the torsion constant:

$$\kappa = \left|\frac{\tau}{\theta}\right| = \frac{0.20}{0.85} = 0.235$$

in SI units. With $I = 2mR^2/5$ (the rotational inertia for a solid sphere – from Chapter 11), Eq. 16-23 leads to

$$T = 2\pi\sqrt{\frac{\frac{2}{5}\,m\,R^2}{\kappa}} = 2\pi\sqrt{\frac{\frac{2}{5}(95)(0.15)^2}{0.235}} = 12 \text{ s} .$$