

Chapter 10 Homework Answers

- 7a) 5.24 s
- 7b) 27.4 rad
- 12) 50.0 rev
- 19a) 126 rad/s
- 19b) 3.77 m/s
- 19c) $1.26 \text{ km/s}^2 \text{ toward the center}$
- 19d) 20.1 m
- 26a) $92.0 \text{ kg} \cdot \text{m}^2$
- 26b) 184 J
- 26c) 6.00 m/s 4.00 m/s 8.00 m/s
- 26d) 184 J
- 33) $\frac{11}{12} mL^2$
- 35) $-3.55 \text{ N} \cdot \text{m}$
- 40b) 0.309 m/s^2
- 40c) 7.67 N 9.22 N
- 44a) 1.95 s
- 44b) acceleration would be larger by a factor $35/32.5$
time shorter by the square root of the factor $32.5/35$
- 55a) 500 J
- 55b) 250 J
- 55c) 750 J
- 56_ $v_f = [10gh/7]^{1/2}$ $v_f = [2gh]^{1/2}$
- time to roll is longer by a factor of $(0.7/0.5)^{1/2}$
- 59a) The disk reaches the bottom first
- 59b) $v_{\text{disk}} = \sqrt{\frac{4gh}{3}}$ $v_{\text{hoop}} = \sqrt{gh}$