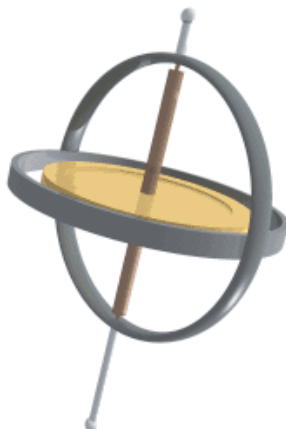


Name:

Date:

Period:

## Chapter 8 (Rotational Motion)



### Homework Check A (collected XXXXXXXXXXXX)

**Angular Quantities** p. 222 #1, 3, 4, 6, 7, 10, 13, 14, 16 ..... Complete by Fri, Feb 7

STAMP  
HERE  
5 POINTS

**Constant Angular Acceleration & Rolling** pp. 222-223 #17, 18, 21, 23 .. Complete by Mon, Feb 10  
*Homework Quiz*

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5 POINTS

**Torque** p. 223 #24, 26, 27 ..... Complete by XXXXXXXXXXXX

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5 POINTS

### Answers

- |                                |   |  |
|--------------------------------|---|--|
| 1. (a) $\pi/4$ rad = 0.79 rad; | 7. $\omega = 230.34$ rad/s;                     | 16. $\omega_1/\omega_2 = R_2/R_1$        |
| (b) $\pi/3$ rad = 1.05 rad;    | $v = 40.3$ m/s;                                 | 17. $-96.3$ rad/s <sup>2</sup> ; 98 rev  |
| (c) $\pi/2$ rad = 1.57 rad;    | $a = 9280$ m/s <sup>2</sup>                     | 18. 30,000 rev                           |
| (d) $2\pi$ rad = 6.28 rad;     | 10. $v = 1.9$ m/s; $a_C = 3.0$ m/s <sup>2</sup> | 21. 33.1 m                               |
| (e) $2.47\pi$ rad = 7.77 rad   | 13. $3500$ rad/s = 33,000 rpm                   | 23. $0.533$ rad/s <sup>2</sup> ; 12.77 s |
| 3. 5.32 km                     | 14. $\alpha = 4.2$ rad/s <sup>2</sup> ;         | 24. 86.63 m N                            |
| 4. $-170.1$ rad/s <sup>2</sup> | $a_C = 134$ m/s <sup>2</sup> ;                  | 26. 40.32 m N; 34.92 m N                 |
| 6. 9.2 cm                      | $a_T = 1.3$ m/s <sup>2</sup>                    | 27. $l_1 mg - l_2 mg$                    |

Homework will be accepted for full credit until the test. Homework turned in after the test will be accepted for half credit until the next test. *Please remember that you will not be eligible to complete test corrections if you do not turn in your homework.*

Name:

Date:

Period:

## Chapter 8 (Rotational Motion)

### Homework Check B (collected on Test Day)

**Rotational Dynamics** pp. 223-225 #30, 32, 40, 41, 45 ..... Complete by XXXXXXXXXXXX

STAMP  
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5 POINTS

**Rotational KE** p. 225 #50, 52 ..... Complete by XXXXXXXXXXXX

STAMP  
HERE  
5 POINTS

**Angular Momentum** pp. 225-226 #62, 63, 64, 65 ..... Complete by XXXXXXXXXXXX

STAMP  
HERE  
5 POINTS

**Conceptual Questions** p. 220 #1, 2, 3, 9, 10, 11, 12, 13, 16, 19, 20 ..... Complete by XXXXXXXXXXXX

THESE QUESTIONS SHOULD HAVE AT LEAST ONE FULL SENTENCE OF EXPLANATION

STAMP  
HERE  
5 POINTS

**Misconceptual Questions** p. 191 #1-13 ..... Complete by test day!

YOU DO NOT NEED TO GET THIS ONE STAMPED, BUT THESE ARE GOOD REVIEW FOR YOUR TEST!

**Bonus Problems!** #28, 36, 67, 72 ..... Turn in separately on test day!

Test will be on XXXXXXXXXXXX

### Problem Answers

30.  $1.81 \text{ kgm}^2$

32.  $15190 \text{ m N}$

40.  $-0.0675 \text{ m N}$ ;  $16.38 \text{ s}$

41.  $324 \text{ m N}$ ;  $129.6 \text{ N}$

45.  $31.3 \text{ N}$

50.  $13,640 \text{ J}$

52.  $48.8 \text{ J}$

62.  $1.5$

63.  $\omega/2$

64.  $0.38 \text{ rot/s}$

65.  $1.23 \text{ kgm}^2$

### Misconceptual Answers

1. C

2. B

3. B

4. C

5. C, E, & F

6. B

7. B

8. B

9. B

10. A

11. C

12. A

13. A