

Name: _____ Class: _____ Date: _____

4. The zero level of the gravitational potential energy of a body near the surface of the Earth is located at _____.

Select the **best** answer.

- | | |
|--------------------------------------|-------------------------------------|
| a. the final position of the body | b. the center of the Earth |
| c. a position chosen for convenience | d. the initial position of the body |
| e. the surface of the Earth | |

5. A wheel of radius R rotates about a fixed axis. When a point at a distance R from the center is moving with angular speed ω , a point located at a distance $R/2$ from the center is moving at angular speed _____.

Select the correct answer.

- | | |
|-----------------|-----------------|
| a. $\omega / 4$ | b. ω |
| c. 2ω | d. $\omega / 3$ |
| e. $\omega / 2$ | |

6. A solid sphere, spherical shell, solid cylinder, and cylindrical shell all have the same mass, m and radius R . If they are all released from rest at the same elevation and roll without slipping down an inclined plane, when they reach the bottom which one has the largest angular velocity ω ?

Select the correct answer.

- | | |
|-------------------------|---------------------------|
| a. The solid cylinder. | b. The cylindrical shell. |
| c. The solid sphere. | d. They are all equal. |
| e. The spherical shell. | |

ANSWER KEY

Name: _____ Class: _____ Date: _____

1.b

2.e

3.d

4.c

5.b

6.c