

Cp physics - Chapter 4 Newton's Laws of Motion Web Review**Please do not write on my tests****Multiple Choice***Identify the choice that best completes the statement or answers the question.*

- _____ 1. A 7.0-kg bowling ball experiences a net force of 5.0 N. What will be its acceleration?
- 35 m/s²
 - 7.0 m/s²
 - 5.0 m/s²
 - 0.71 m/s²
 - 0.52 m/s²
- _____ 2. An astronaut applies a force of 500 N to an asteroid, and it accelerates at 7.00 m/s². What is the asteroid's mass?
- 71 kg
 - 135 kg
 - 441 kg
 - 3 500 kg
 - 3.600 kg
- _____ 3. Two ropes are attached to a 40-kg object. The first rope applies a force of 25 N and the second, 40 N. If the two ropes are perpendicular to each other, what is the resultant acceleration of the object?
- 1.2 m/s²
 - 3.0 m/s²
 - 5.0 m/s²
 - 25 m/s²
 - 47 m/s²
- _____ 4. Two forces act on a 6.00-kg object. One of the forces is 10.0 N. If the object accelerates at 2.00 m/s², what is the greatest possible magnitude of the other force?
- 1.0 N
 - 2.0 N
 - 22.0 N
 - 34.0 N
 - 41.0 N
- _____ 5. The acceleration due to gravity on the Moon's surface is one-sixth that on Earth. An astronaut's life support backpack weighs 300 lbs on Earth. What does it weigh on the Moon?
- 1 800 lb
 - 300 lb
 - 135 lb
 - 50 lb
 - 40 lb

- _____ 6. The acceleration due to gravity on the Moon's surface is one-sixth that on Earth. What net force would be required to accelerate a 20-kg object at 6.0 m/s^2 on the moon?
- 1.3 N
 - 20 N
 - 33 N
 - 120 N
 - 130 N
- _____ 7. If we know that a nonzero net force is acting on an object, which of the following must we assume regarding the object's condition? The object is:
- at rest.
 - moving with a constant velocity.
 - being accelerated.
 - losing mass.
 - both a and b are correct.
- _____ 8. A 2 000-kg sailboat experiences an eastward force of 3 000 N by the ocean tide and a wind force against its sails with magnitude of 6 000 N directed toward the northwest (45° N of W). What is the magnitude of the resultant acceleration?
- 2.2 m/s^2
 - 2.1 m/s^2
 - 1.5 m/s^2
 - 3.0 m/s^2
 - 1.2 m/s^2
- _____ 9. A 2 000-kg sailboat experiences an eastward force of 3 000 N by the ocean tide and a wind force against its sails with magnitude of 6 000 N directed toward the northwest (45° N of W). What is the direction of the resultant acceleration?
- 60° N of E
 - 30° N of W
 - 30° N of E
 - 74° N of W
 - 60° N of W
- _____ 10. A cart of weight 20 N is accelerated across a level surface at 0.15 m/s^2 . What net force acts on the wagon? ($g = 9.8 \text{ m/s}^2$)
- 0.92 N
 - 0.31 N
 - 3.0 N
 - 4.5 N
 - 5.2 N
- _____ 11. A rock is rolled in the sand. It starts at 5.0 m/s , moves in a straight line for a distance of 3.0 m, and then stops. What is the magnitude of the average acceleration?
- 1.8 m/s^2
 - 4.2 m/s^2
 - 5.4 m/s^2
 - 6.2 m/s^2
 - 7.1 m/s^2

Name: _____

ID: A

- _____ 12. Rita accelerates a 0.40-kg ball from rest to 9.0 m/s during the 0.15 s in which her foot is in contact with the ball. What average force does she apply to the ball during the kick?
- 48 N
 - 72 N
 - 24 N
 - 60 N
 - 76 N
- _____ 13. A 70.0-kg man jumps 1.00 m down onto a concrete walkway. His downward motion stops in 0.0200 seconds. If he forgets to bend his knees, what force is transmitted to his leg bones?
- 15 500 N
 - 7 010 N
 - 4 900 N
 - 3 500 N
 - 2.600 N
- _____ 14. The accelerating force of the wind on a small 200-kg sailboat is 707 N northeast. If the drag of the keel is 500 N acting west, what is the acceleration of the boat?
- 1.5 m/s² due east
 - 2.5 m/s² due north
 - 3.0 m/s² northeast
 - 2.0 m/s² north by northwest
 - 1.5 m/s² due west
- _____ 15. A barefoot field-goal kicker imparts a speed of 30 m/s to a football at rest. If the football has a mass of 0.50 kg and time of contact with the football is 0.025 s, what is the force exerted on the foot?
- 190 N
 - 380 N
 - 600 N
 - 900 N
 - 950 n

**Cp physics - Chapter 4 Newton's Laws of Motion Web Review
Answer Section**

MULTIPLE CHOICE

1. D
2. A
3. A
4. C
5. D
6. D
7. C
8. A
9. D
10. B
11. B
12. C
13. A
14. B
15. C