

Name _____

Answer the following questions. These questions will help you on your test on Wednesday. The page numbers refer to pages in the Conceptual Physics Text.

1. What produces Accelerations? (p.59)
2. How are acceleration and mass related? (p. 60)
3. How are acceleration and the net force related? (p.60)
4. What happens to the acceleration when an object reaches Terminal Velocity? (p.69)
5. Mr. Morrill and a young child are both wearing the same size parachute. If the jump out of an airplane together, who will reach the ground first? (p. 69-70)
6. If a bowling ball and a ping pong ball are dropped in a vacuum, what is the net force acting on each object? You should have two answers. (p. 68)
7. If Mr. Morrill has a weight of 1200 N while standing on a scale with both feet, what would the scale read if he were standing with one foot only? (p. 65)
8. If the force of friction on a sliding box is 40 N, how much force is needed to keep the box sliding with a constant velocity? (p. 63-64)
9. Mr. Morrill is holding a TV that weighs 250 N in his hands. If the TV is at rest, what is the net force acting on the TV? (p.59-60)
10. If a young lady has a mass of 450 N and she jumps off a chair, what is the net force acting on her when she is in the air? (p. 67-68)
11. If a young man pulls on a 50 kg wagon with a net force of 25 N, what is the acceleration of the wagon? (p.62)
12. If an object has a constant acceleration and a constant mass, what can you say about the acceleration? (p. 60-61)

13. If a force of 5 N acts on a mass of 5 kg and produces an acceleration of 1 m/s^2 , what would be the acceleration of a 15 N force acting on a 15 kg object? (p.61-62)
14. If you push a 2 kg object, you get produce an acceleration. To get the same acceleration pushing a 10 kg object, how much force would you have to apply? (p.61)
15. A ball is thrown straight up in the air. At the top of its trajectory, what are the net force and acceleration of the ball? (p.67)
16. If Mr. Morrill is pushing his car in the snow with a force of 300N at a constant speed, what is the frictional force acting on the car? (p.63-64)
17. What is the definition of Pressure? (p.65)
18. What are the units of Pressure? (p.65)
19. Which would hurt Mr. Morrill more, a stout young man with tennis shoes standing on Mr. Morrill or a petite young lady with high heels standing on Mr. Morrill? Why? (p.65)
20. A ping pong ball and a steel ball of the same size are dropped from a tall building. Neglecting friction, which ball has the most force acting on it? (p. 68)
21. A ping pong ball and a steel ball of the same size are dropped from a tall building. Neglecting friction, which ball has the greatest acceleration? (p. 68)
22. What is the approximate terminal velocity for a person jumping out of an airplane with a parachute? (p. 69)
23. A package is dropped out of an airplane. As the velocity of the package increases, the acceleration does what? (p.68-69)
24. If I push on a desk with a force of 20 N and the desk does not move, the friction acting on the desk must be 20 N. If I push on a desk with a force of 20 N and the desk is sliding with a constant velocity, what do you know about the friction acting on the desk? (p.63-64)
25. If I push with 5 times the force, what happens to the acceleration of an object? (p.61)
26. If I push with a constant force, but the mass of an object suddenly triples, what happens to the acceleration? (p.61)

27. You are on a frozen pond. If you feel like the ice is about to crack, what should you do and why?
(p.64-65)
28. If a 100 N object is falling and experiences a frictional force of 20 N, what is the net force acting on the object? (p.68-69)
29. A 2500 kg car is experiences an acceleration of 5 m/s^2 . What is the net force acting on the car?
(p.62)
30. While taking off, a 10,000 kg plane experiences a net force of 1500 N. What is the acceleration of the plane? (p.62)