

Name: \_\_\_\_\_

### Chapter 12 Review Sheet

1. A force is a \_\_\_\_\_ or a \_\_\_\_\_ that acts on an object.
2. What is the SI unit for force?
3. How do forces affect the motion of an object?
4. When the forces on an object are balanced, the net force is \_\_\_\_\_.
5. What happens to the objects motion when the forces acting on it are balanced?
6. What happens to an object when an unbalanced force acts on it?
7. The \_\_\_\_\_ is the overall force acting on an object after all the forces are combined.
8. \_\_\_\_\_ if a force that opposes the motion of objects that touch as they move past each other.
9. List AND give an example of each of the 4 types of friction.
10. True or False: Sliding friction is less than static friction.
11. True or False: The force of sliding friction is about 100 to 1000 times less than the force of static or rolling friction.
12. True or False: Air resistance is an example of a fluid friction.
13. Earth's gravity acts \_\_\_\_\_ toward the center of the Earth.
14. What type of force is gravity?
15. True or False: Gravity acts only on short distances.
16. What are the 2 factors that affect the motion of a falling object?
17. Gravity causes objects to \_\_\_\_\_ downward, whereas air resistance acts in the direction \_\_\_\_\_ to the motion and \_\_\_\_\_ acceleration.
18. A thrown ball follows a \_\_\_\_\_ path.
19. Projectile motion is the motion of a falling object after it is given an initial \_\_\_\_\_.  
It follows a \_\_\_\_\_ path.
20. What does Newton's first law of motion state?

21. True or False: Unless an unbalanced force acts, an object at rest remains at rest.
22. True or False: Unless an unbalanced force acts, an object in motion remains in motion and accelerates.
23. What is INERTIA?
  
24. What three variables did Newton's second law of motion relate? What is the equation?
  
25. How are mass and acceleration related?
26. How are force and acceleration related?
  
27. True or False: Mass and weight are the same thing.
28. \_\_\_\_\_ is a measure of the inertia of an object.
29. What is weight?
  
30. What is the value of gravity on Earth?
  
31. True or False: The mass of an object on Earth is the same as the mass of the object on the moon.
32. True or False: The weight of an object on Earth is the same as the weight of an object on the moon.
  
33. According to Newton's third law of motion, whenever one object exerts a force on the second object, the second object exerts an \_\_\_\_\_ and \_\_\_\_\_ force on the first object.
34. Newton's third law of motion is also known as the law of \_\_\_\_\_ and \_\_\_\_\_ forces.
  
35. True or False: Action and reaction forces DO NOT cancel.
36. Why don't action and reaction forces cancel?
  
37. What is momentum?
  
38. What is the momentum for an object at rest?
  
39. Both mass and velocity are \_\_\_\_\_ proportional to momentum.
40. According to the law of conservation of momentum, if no net force acts on a system, then the total momentum of the system \_\_\_\_\_.
  
41. How many universal forces are present? List them.
  
42. Electric force and magnetic force are the only two forces that can do what two things?
  
43. What type of particles are associated with electromagnetic force?
  
44. Circle one: Opposite charges (attract/repel) and like charges (attract/repel) one another.

45. What are the two poles on a magnet?
46. Where do the strong and weak nuclear forces take place? What particles do these forces affect?
47. What does the strong nuclear force overcome?
48. What does Newton's law of universal gravitation state?
49. Gravitational force is an attractive force that acts between any two \_\_\_\_\_.
50. What two things do gravitational force depend on?
51. True or False: Gravitational force increases when the masses of the objects increases.
52. True or False: Gravitational force increases when the distance between the objects increases.
53. True or False Gravity is the weakest universal force.
54. True or False: Gravity is the most effective force over long distances.
55. A \_\_\_\_\_ force is a center directed force that continuously changes the direction of an object to make it move in a circle.
56. The moon's \_\_\_\_\_ and the \_\_\_\_\_ pull of Earth results in the nearly circular orbit.
57. What does the gravitational pull from the moon produce here on Earth?