

Name _____



Date _____

Forces and Motion

Complete.

velocity	friction	acceleration	newton	balance
inertia	motion	work	force	speed
joule	spring scale	magnetism	mass	weight
momentum	gravity			

Matching

Match each definition with a word.

- _____ The natural force produced by a magnetic field.
- _____ A device used for measuring weight.
- _____ Energy in the form of a push or a pull.
- _____ A measure of both the speed and direction of a moving object.
- _____ A measurement of the motion of something. This is equal to the product of the moving object's mass times its velocity.
- _____ The tendency of an object to resist a change in motion.
- _____ A device used for measuring mass.
- _____ The rate at which velocity changes.
- _____ A force that opposes motion between two surfaces that are touching.
- _____ The unit of work in the metric system.

Multiple Choice

Select the definition that most nearly defines the given word.

- _____ **force**
A. A measurement of the motion of something. This is equal to the product of the moving object's mass times its velocity.
B. Energy in the form of a push or a pull.
- _____ **velocity**
A. A unit that is a measure of force.
B. A measure of both the speed and direction of a moving object.
- _____ **motion**
A. A change in the position or place of something over time in comparison to a reference point.
B. The natural force produced by a magnetic field.



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14. _____ **momentum**
A. A force that opposes motion between two surfaces that are touching.
B. A measurement of the motion of something. This is equal to the product of the moving object's mass times its velocity.
15. _____ **mass**
A. The amount of matter that an object has.
B. Energy in the form of a push or a pull.
16. _____ **spring scale**
A. A change in the position or place of something over time in comparison to a reference point.
B. A device used for measuring weight.
17. _____ **inertia**
A. A force that pulls objects towards each other.
B. The tendency of an object to resist a change in motion.
18. _____ **magnetism**
A. The natural force produced by a magnetic field.
B. A measure of the amount of force needed to move an object a certain distance.
19. _____ **acceleration**
A. The rate at which velocity changes.
B. A measure of the force of gravity on an object.
20. _____ **weight**
A. A measure of the force of gravity on an object.
B. The tendency of an object to resist a change in motion.

Review

21. _____

Student	Weight (N)	Time (seconds)
Tom	600	30
John	750	35
Michael	800	25
Jerry	1000	40

The table below shows the result of four students competing in a 100-meter road walk. Which student takes more power to finish the race?

- A. Jerry
- B. John
- C. Tom
- D. Michael

22. _____

It is dangerous to drive on an icy road because ice reduces the _____ between the car and the road surface.

- A. Inertia
- B. Gravity
- C. Gravity and friction
- D. Friction



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23. _____ Which of the following statements is NOT true?
- A. When an object is slowing down, its acceleration is in the opposite direction of its motion.
 - B. If a bicyclist rides in a straight line at a constant speed, he is not accelerating.
 - C. When two objects have the same velocity, they must be traveling at the same speed and in the same direction.
 - D. An object with constant velocity is said to have a constant acceleration.
24. _____ The bottom of a door at the entrance of a building is one meter above ground level. The building's wheelchair access ramp from the ground to the door is four meters long. If it takes Joe 1200 J of work to push a box up the ramp, how much force does Joe exert on the box?
- A. 1200 N
 - B. 240 N
 - C. 300 N
 - D. 400 N
25. _____ An object's rate of acceleration due to gravity does not change regardless of mass.
- A. True
 - B. False
26. _____ Deceleration is a form of acceleration.
- A. True
 - B. False
27. _____ _____ is the product of an object's velocity and mass.
- A. Work
 - B. Force
 - C. Momentum
 - D. Acceleration
28. _____ Which type(s) of simple machine can NOT change the direction of a force?
- A. A pulley
 - B. A lever
 - C. A wheel and axle
 - D. All of the above
29. _____ When balanced forces act on a moving object, the object will keep moving at the same speed and in the same direction.
- A. False
 - B. True
30. _____ Which simple machine is NOT a variation of an inclined plane?
- A. A ramp
 - B. A screw
 - C. A wheel and axle
 - D. A wedge

Answer Key

1. magnetism
2. spring scale
3. force
4. velocity
5. momentum
6. inertia
7. balance
8. acceleration
9. friction
10. joule
11. B
12. B
13. A
14. B
15. A
16. B
17. B
18. A
19. A
20. A
21. (A)
22. (D)
23. (D)
24. (C)
25. (A)
26. (A)
27. (C)
28. (C)
29. (B)
30. (C)