

Work & Power Quiz Review

True/False

Indicate whether the sentence or statement is true or false.

- ___ 1. When you perform work on an object you increase the energy of the object.
- ___ 2. A force at any angle to the direction of motion can perform work.
- ___ 3. Work is measured in joules.
- ___ 4. Power is the rate at which a force is applied.
- ___ 5. The unit of power is the watt.

Modified True/False

Indicate whether the sentence or statement is true or false. If false, change the identified word or phrase to make the sentence or statement true.

- ___ 6. Holding a 25-N bag of sugar 1 meter above the floor requires 25 joules of work.

- ___ 7. Energy is the rate at which work is done. _____

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 8. Which one of the following is NOT an example of work being done?
 - a. the Moon orbiting Earth
 - b. pushing a box from the bottom of a hill to the top of the hill
 - c. pulling a sled across a field covered with snow
 - d. lifting a bookbag off the floor
- ___ 9. The rate at which work is done is called _____.
 - a. efficiency
 - b. effort time
 - c. force
 - d. power
- ___ 10. When two or more simple machines work together, they are called a(n) _____.
 - a. compound machine
 - b. effort machine
 - c. screw
 - d. simple machine

- _____ 11. For work to be done on an object,
- some force need only be exerted on the object.
 - the object must move some distance as a result of a force.
 - the object must move, whether or not a force is exerted on it.
 - the object must not move.
- _____ 12. Which of these is an example of work being done on an object?
- holding a heavy piece of wood at a construction site
 - trying to push a car that doesn't move out of deep snow
 - pushing a child on a swing
 - holding a door shut on a windy day so it doesn't blow open
- _____ 13. If you exert a force of 20 newtons to push a desk 10 meters, how much work do you do on the desk?
- 200 joules
 - 30 joules
 - 10 joules
 - 100 joules
- _____ 14. Work is measured in
- meters.
 - pounds.
 - joules.
 - newtons.
- _____ 15. In order to do work on an object, the force you exert must be
- the maximum amount of force you are able to exert.
 - in the same direction as the object's motion.
 - in a direction opposite to Earth's gravitational force.
 - quick and deliberate.
- _____ 16. Work equals force times
- energy.
 - velocity.
 - distance.
 - mass.

Numeric Response**Show your work!**

17. Nascar driver, Jeff Gordon, has a car that is one of the fastest on the circuit. If it travels 600 miles in 4 hours, what is his cruising speed?

Name: _____

ID: A

18. Wile E. Coyote fell off a cliff. At the beginning of his fall, his speed is 98 meters per second. 20 seconds later, when he splattered on the ground (unhurt) his speed was 0 meters per second. What was the Coyote's deceleration rate?

Completion

Complete each sentence or statement.

19. A joule is equal to one _____ times one meter.
20. Power describes the _____ at which work is being done.
21. A machine made of several simple machines is called a(n) _____.
22. A newton-meter is a measure of work also known as the _____.

Problem

23. You use 200 N of force to push a snow shovel 10 m along the ground. How much work was done?
24. A painter lifts a 3 kg can of paint 3 m above the floor. How much work was done?
25. How much work is done if 500 W of power is used over 2 min?

Essay

26. You push a food tray 1.5 m along a cafeteria table with a constant force of 18 N. How much work do you do?