Work Power Mechanical Advantage Simple Machines Quiz

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. For work to be done on an object,
a. some force need only be exerted on the object.
b. the object must move some distance as a result of a force.
c. the object must move, whether or not a force is exerted on it.
d. the object must not move.

____ 2. Which of these is an example of work being done on an object?
a. holding a heavy piece of wood at a construction site
b. trying to push a car that doesn't move out of deep snow
c. pushing a child on a swing
d. holding a door shut on a windy day so it doesn't blow open

____ 3. If you exert a force of 20 newtons to push a desk 10 meters, how much work do you do on the desk?
a. 200 joules
b. 30 joules
c. 10 joules
d. 100 joules

____ 4. Work is measured in
a. meters.
b. pounds.
c. joules.
d. newtons.

____ 5. What do machines do?
a. change the amount of force you exert or the distance over which you exert the force
b. increase the amount of work that is done
c. decrease the amount of work that is done
d. eliminate friction

____ 6. Without friction there would be
a. less machine efficiency.
b. greater output work than input work.
c. greater input work than output work.
d. equal input and output work.

____ 7. A ramp is an example of a simple machine called a(an)
a. inclined plane.
b. wedge.
c. lever.
d. pulley.

____ 8. Which of these is an example of a third-class lever?
a. scissors
b. pliers
c. fishing pole
d. nutcracker

___ 9. A machine that utilizes two or more simple machines is called a
   a. combination machine.
   b. compound machine.
   c. mechanical machine.
   d. mixed machine.

___ 10. Which body parts act as the fulcrums of levers?
   a. muscles
   b. bones
   c. joints
   d. tendons

___ 11. Which body parts are shaped like wedges?
   a. muscles
   b. tendons
   c. incisors
   d. bones in your legs

___ 12. A simple machine that might be thought of as an inclined plane that moves is a
   a. lever.
   b. wheel and axle.
   c. wedge.
   d. pulley.

___ 13. Which of these could be considered an inclined plane wrapped around a cylinder?
   a. lever
   b. screw
   c. wheel and axle
   d. pulley

___ 14. The fixed point that a lever pivots around is called the
   a. axle.
   b. pulley.
   c. gear.
   d. fulcrum.

___ 15. In order to do work on an object, the force you exert must be
   a. the maximum amount of force you are able to exert.
   b. in the same direction as the object's motion.
   c. in a direction opposite to Earth's gravitational force.
   d. quick and deliberate.

___ 16. Work equals force times
   a. energy.
   b. velocity.
   c. distance.
   d. mass.

___ 17. When you raise or lower a flag on a flagpole, you are using a(an)
   a. wheel and axle.
   b. pulley.
   c. wedge.

d. inclined plane.

____ 18. How can a hockey stick be considered a machine?
a. It multiplies force.
b. It multiplies distance.
c. It changes direction.
d. It reduces friction.

____ 19. Most of the machines in your body consist of bones and muscles and are called
a. wedges.
b. levers.
c. pulleys.
d. compound machines.

____ 20. Power is measured in units called
a. joules.
b. pounds.
c. watts.
d. newtons.

21
10. If 360 Joules of work are needed to move a crate a distance of 4 meters, what is the weight of the crate?

22
11. If a group of workers can apply a force of 1000 Newtons to move a crate 20 meters, what amount of work will they have accomplished?

23
12. If 68 Joules of work were necessary to move a 4 Newton crate, how far was the crate moved?

24
11. How much time is needed to produce 720 Joules of work if 90 watts of power is used?

25
12. If 68 W of power is produced in 18 seconds, how much work is done?