1) The work you do when pushing a shopping cart twice as far while applying twice the force is
   a) half as much
     \textit{b) twice as much}
   c) same amount
   d) 2 squared

2) A common pulley acts similar to a
   a) hydraulic press.
   b) gear.
     \textit{c) lever}
   d) tension producer.
3) Phil applies 100 N to a pulley system and raises a load one-tenth of his downward pull. Ideally, the total work required would be?

a) 100 N
b) 1 N
c) 10,000 N
d) 1,000 N
4) What type of simple machine is this?

a) pulley  
b) lever  
c) wedge  
d) screw
5) What type of simple machine is this? Do not include the handle.

a) pulley
b) lever
c) wedge
d) screw
6) What type of simple machine is this?

- a) inclined plane
- b) lever
- c) wedge
- d) screw

7) What type of simple machine is this?

- a) pulley
- b) lever
- c) wedge
- d) screw

8) Which simple machine is composed of an inclined plane wrapped into a spiral?

- a) pulley
- b) lever
- c) wedge
- d) screw
9) The purpose of using simple machines is to?

   a) gain mechanical advantage
   b) to increase the force
   c) to use the force
   d) decrease the mechanical disadvantage

10) Which lever has the biggest mechanical advantage

\[ I = \text{input force}, \ O = \text{output force or where the weight is} \]

   a) A
   b) B
   c) C

11) Which screw would go into a board with less force?

   a) a large screw with a big distance between threads

   **b) a small screw with a small distance between threads**

12) Which screw would go **farther** into a board with every turn?

   a) a large screw with a big distance between threads

   b) a small screw with a small distance between threads
13) What type of simple machine is this?

a) block and tackle
14) In order to reduce the amount of force used, a simple machine must_________ of the work?
   a) increase the distance
   b) increase the work
   c) increase the power
   d) decrease the distance

15) What type of simple machine is this?
   a) pulley
   b) lever
   c) wedge
   d) screw
16) What type of simple machine is this?

- a) inclined plane
- b) lever
- c) wedge
- d) screw

17) What type of simple machine is this?

- a) pulley
- b) lever
- c) wedge
- d) screw
18) What type of simple machine is this?
   a) pulley
   b) lever
   c) inclined plane/wedge
   d) screw

19) Simple machines can alter the amount of work.
   a) True
   b) False

20) Work is measured in?
   a) Newtons
   b) Watts
   c) Joules
   d) Jewels
21) Based on the picture, Which letter = EFFORT ARM

a) A
b) B
c) C
d) D
22) Based on the picture, Which letter = fulcrum or pivot point

a) A
b) B
c) C
d) D
23) Based on the picture, Which letter = LOAD ARM

a) A
b) B
c) C
d) D
24) Based on the picture, Which letter = \text{LOAD}

a) A 
b) B 
c) C 
d) D
25) How much force must Homer apply to move the package to the top of the boxes?

a) 2.5 N
b) 10 N
c) 15 N
d) none of these are correct
26) What is the mechanical advantage of this lever (how much force does it reduce)?

- a) 2.5 N
- b) 10 N
- c) 15 N
- d) none of these are correct

27) When the output force is greater than the input force you have?
   - a) more work
   - b) less work
   - c) less distance
   - d) mechanical advantage

28) To gain mechanical advantage using a lever, the ______ must be farther away from the fulcrum?
   - a) output force
   - b) effort force
   - c) output arm
   - d) strong arm
29) Which simple machine is this hammer being as to remove the nail?

a) block and tackle
b) lever
c) wedge
d) screw

30) Why are steps a type of simple machine?

a) they increase the distance and decrease force necessary to climb the height
b) they increase the force and decrease distance necessary to climb the height
c) they decrease the work necessary to climb the height
d) all of these are correct