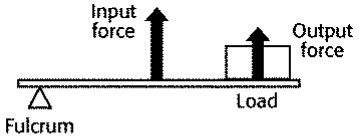
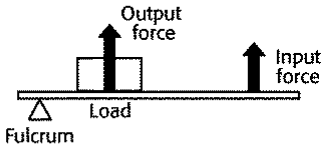
Physics Test 5 Work and Machines A

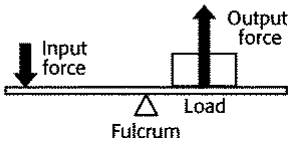
a.



b.



c.



Use the pictures of the levers below to answer1-4 questions below.

1. Which of these levers multiplies force and changes the direction of force?
2. Which of these levers multiplies force and keeps the direction of force the same?
3. Which of these levers is a distance or speed multiplier?
4. Which of these classes may be a force or distance multiplier depending on the fulcrum's location?

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5. Which use of the wheel produces a mechanical advantage of greater than 1?

a) Using the wheel to turn the axle

b) Using the axle to turn the wheel

6. John pushes cart a distance of 5m with a force of 100N. How much work has he done on the cart?

a) 500 joules

b) 20 joules

c) 100 joules

d) 0.05 joules

7. What prevents machines from being 100% efficient?

a. friction c. output force

b. input force d. power

Match the type of measurement with the units used to measure itt.

Type of measurement	**Unit**
8. force	a) joules
9. work	b) meters
10. distance	c) newtons

11. Which of these best describes work output?
a. the work done on a machine
b. the work the machine does on an object
c. the force the machine puts on an object

12. Which of these best describes input force?
a. the work you do on a machine
b. the force you put on a machine
c. the force the machine puts on an object

13. Which best describes how a ramp/inclined plane makes work easier?
a. it allows you to move the object a shorter distance using more force
b. it makes friction between the object and the ramp which makes less work
c. it allows you to move the object a longer distance using less force

14. Which is an example of a wedge?
a. a wheelbarrow
b. a knife
c. a bicycle wheel

15. Which two machines are related to the inclined plane?
a. pulley and wheel and axle
b. lever and pulley
c. wedge and screw

16. Which of these best describes mechanical efficiency?
a. the comparison between a machine's work output and work input
b. the comparison between a machine's input force and output force
c. ForcexDistance

17. Which of these best describes mechanical advantage?
a. work output/work input
b. output force/input force
c. forcexdistance

18. Which two simple machines make up the compound machine the wheel barrow?
a. wheel and axle and lever
b. pulley and wedge
c. wedge and lever

19. Which two simple machines make up the compound machine the axe?
a. wheel and axle and lever
b. pulley and wedge
c. wedge and lever

20. How can you increase the mechanical advantage of an inclined plane or ramp?
a. Make the ramp longer.
b. Make the ramp shorter.
c. Lubricate the ramp to decrease friction between the ramp and the object.

Match each type of pulley with its description

Pulley Type	**Description**
21. Movable pulley	a. Single pulley that only spins; changes direction only, MA=1
22. Fixed pulley	b. Four pulleys and rope segments; force multiplier, MA=4
23. Block and tackle	c. Single pulley that spins and moves up with the load as it is lifted; force multiplier, MA=2