

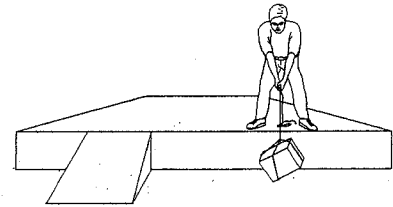
SECTION 4-2 REVIEW AND REINFORCE

Mechanical Advantage and Efficiency

◆ Understanding Main Ideas

In the diagram, the man can either pull the box upward onto the platform or pull the box up the ramp. Use the diagram to answer Questions 1 through 4.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.



- _____ 1. The work of pulling the box will be easier if the man uses the ramp.
- _____ 2. The ramp makes work easier by dividing distance.
- _____ 3. To calculate the efficiency of the ramp, divide the output work by the input work and multiply the result by 100 percent.
- _____ 4. The ideal mechanical advantage of the ramp is its mechanical advantage with friction.



◆ Building Vocabulary

From the list below, choose the term that best completes each sentence.

- | | | |
|-----------------------------|-------------|----------------------------|
| machine | input force | output force |
| mechanical advantage | efficiency | ideal mechanical advantage |
| actual mechanical advantage | | |

5. A machine's _____ is the number of times the machine multiplies the input force.
6. The force you exert on a machine is called the _____.
7. A _____ is a device you can use to make work easier.
8. The _____ is the mechanical advantage of a machine without friction.
9. The _____ is the mechanical advantage that a machine provides in a real situation.
10. The _____ of a machine compares the output work to the input work and is expressed as a percent.
11. The force exerted by a machine is called the _____.

SECTION 4-2

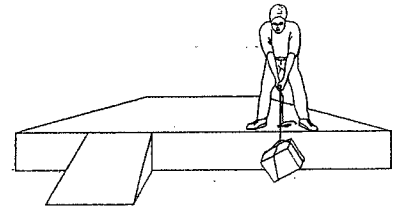
REVIEW AND REINFORCE

Mechanical Advantage and Efficiency

◆ Understanding Main Ideas

In the diagram, the man can either pull the box upward onto the platform or pull the box up the ramp. Use the diagram to answer Questions 1 through 4.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.



True

1. The work of pulling the box will be easier if the man uses the ramp.

multiplying
true

2. The ramp makes work easier by dividing distance.

3. To calculate the efficiency of the ramp, divide the output work by the input work and multiply the result by 100 percent.

without

4. The ideal mechanical advantage of the ramp is its mechanical advantage with friction.

◆ Building Vocabulary

From the list below, choose the term that best completes each sentence.

machine

input force

output force

mechanical advantage

efficiency

ideal mechanical advantage

actual mechanical advantage

5. A machine's MA is the number of times the machine multiplies the input force.
6. The force you exert on a machine is called the Input Force.
7. A machine is a device you can use to make work easier.
8. The IMA is the mechanical advantage of a machine without friction.
9. The AMA is the mechanical advantage that a machine provides in a real situation.
10. The efficiency of a machine compares the output work to the input work and is expressed as a percent.
11. The force exerted by a machine is called the Output Force.