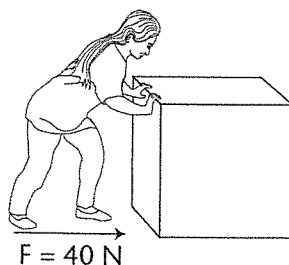


Review and Reinforce

Work and Power

Understanding Main Ideas

Use the illustration to answer Questions 1–3 in the spaces provided.



1. The illustration shows a girl pushing on a heavy box. She pushes with a force of 40 N. How can you determine if she is doing work on the box?

2. The girl pushes the box 2 m. What formula should you use to calculate the amount of work done on the box?

3. How much work does the girl do pushing the box 2 m?

Building Vocabulary

On a separate sheet of paper, write a definition for each of these terms.

4. work
5. joule
6. power

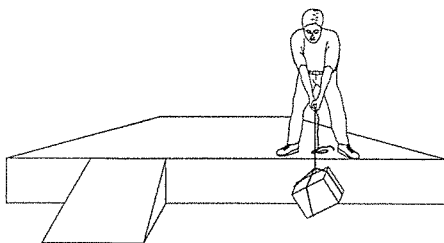
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Review and Reinforce

Understanding Machines

Understanding Main Ideas

In the illustration below, the man can either pull the box upward onto the platform or pull the box up the ramp. Use the illustration to answer Questions 1–4. If the statement is true, write *true*. If the statement 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 helps the man do work by reducing input distance.
3. _____ To calculate the efficiency of the ramp, divide the output work by the input work and multiply the result by 100%.
4. _____ The ideal mechanical advantage of the ramp is its mechanical advantage with friction.

Building Vocabulary

Fill in the blank to complete each statement.

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 _____.

Review and Reinforce

Inclined Planes and Levers

Understanding Main Ideas

Answer the following questions in the spaces provided.

1. How does an inclined plane help you do work?

2. How is a screw related to an inclined plane?

3. Give an example of each of the three classes of levers.

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

- | | |
|-----------------------|--|
| 4. ___ inclined plane | a. the fixed point that a lever pivots around |
| 5. ___ wedge | b. a flat, sloped surface |
| 6. ___ lever | c. an inclined plane wrapped around a cylinder |
| 7. ___ screw | d. an inclined plane or two inclined planes back-to-back that can move |
| 8. ___ fulcrum | e. a rigid bar that is free to pivot, or rotate, on a fixed point |

Review and Reinforce

Putting Machines Together

Understanding Main Ideas

Answer the following questions in the spaces provided.

1. What are the two types of machine that turn?

2. What are the three types of pulleys?

3. How do you find the mechanical advantage of a wheel and axle?

4. How are the input and output forces of the parts of a compound machine related?

5. How do you find the mechanical advantage of a compound machine?

Building Vocabulary

Write a definition for each of these terms on the lines below.

6. pulley

7. wheel and axle

