



Class 9 Science | Work, Energy, And Simple Machines

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A 15 N force moves an object 4 m along the force. Work is:

- A. 19 J B. 60 J C. 30 J D. 3.75 J

2. A person pushes a rigid wall that does not move. Mechanical work on the wall is:

- A. Negative B. Positive
C. Zero D. Equal to the force

3. Friction on a sliding box does:

- A. Negative work B. Always zero work
C. No energy transfer D. Positive work

4. A 2 kg body moves at 5 m/s. Kinetic energy is:

- A. 10 J B. 5 J C. 25 J D. 50 J

5. Doubling speed at constant mass multiplies kinetic energy by:

- A. 2 B. 1/2 C. 8 D. 4

6. A 3 kg object is lifted 2 m. Potential-energy gain ($g=10 \text{ m/s}^2$) is:

- A. 60 J B. 6 J C. 15 J D. 30 J

7. A freely falling body loses 40 J of potential energy with no drag. Its kinetic energy:

- A. Decreases by 40 J B. Becomes zero
C. Remains constant D. Increases by 40 J

8. A machine performs 600 J of work in 3 s. Power is:

- A. 603 W B. 0.005 W C. 200 W D. 1800 W

9. One kilowatt-hour equals:

- A. 1000 J B. $3.6 \times 10^3 \text{ W}$ C. $3.6 \times 10^6 \text{ J}$ D. 3600 J

10. An ideal machine lifts a 300 N load with 100 N effort. Mechanical advantage is:

- A. 1/3 B. 200 C. 3 D. 400

11. For a balanced ideal lever, effort $\times$ effort arm equals:

- A. Load + load arm B. Load / effort arm
C. Effort / load D. Load $\times$ load arm

12. A lever has effort arm 60 cm and load arm 20 cm. Ideal MA is:

- A. 3 B. 40 C. 1/3 D. 80

13. A single ideal fixed pulley mainly changes the:

- A. Direction of effort
B. Energy required to zero
C. Load's weight
D. Mechanical advantage to 4

14. An ideal ramp is 4 m long and 1 m high. Its mechanical advantage is:

- A. 4 B. 5 C. 3 D. 1/4

15. At the lowest point of an ideal swinging pendulum, its kinetic energy is:

- A. Zero
B. Minimum but nonzero
C. Maximum
D. Negative

ANSWER KEY — check after completing all 15 questions

1.B 2.C 3.A 4.C 5.D 6.A 7.D 8.C 9.C 10.C 11.D 12.A 13.A 14.A 15.C

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper

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