

Simple Machines Study Guide

Physics · Answer Key · 10 Questions

1. What is the efficiency of a machine that uses 50 N effort over 8 m to lift 100 N over 4 m?

- A) 70%
- B) 80%
- C) 90%
- D) 100%**

2. True or False: In the real world, there is a machine that is 100% efficient.

- A) True
- B) False**

3. What is the definition of efficiency regarding work?

- A) Work output / Work input**
- B) Work input / Work output
- C) Work input + Work output
- D) Work input - Work output

4. A wedge is considered to be what type of simple machine?

- A) Single inclined plane
- B) Double inclined plane**
- C) Lever
- D) Wheel and axle

5. What is the name for the separation between each thread in a screw?

- A) Gap
- B) Margin
- C) Pitch**
- D) Depth

6. For a wheel and axle with a wheel radius of 30 cm and an axle radius of 5 cm, what is the velocity ratio?

- A) 5
- B) 6**
- C) 150
- D) 0.16

7. What is the mechanical advantage of a lever that lifts a 100 N load with 20 N of input force?

- A) 2
- B) 4
- C) 5**
- D) 2000

8. Which of the following is NOT a type of simple machine?

- A) Lever
- B) Pulley
- C) Wedge
- D) Battery**

9. Why is the Actual Mechanical Advantage (AMA) usually less than the Ideal Mechanical Advantage (IMA)?

- A) Due to friction**
- B) Due to gravity
- C) Due to density
- D) Due to air pressure

10. How many classes of levers are there?

- A) 1
- B) 2
- C) 3**
- D) 4