# Sample Practice Quiz Questions

1. What is the purpose of levers in machines?

A.: To decrease the force applied  
B.: To increase the force applied  
C.: To reduce the movement of the load  
D.: To increase the speed of the load

Correct Answer: B. To increase the force applied

2. Which type of lever has the fulcrum between the load and the effort?

A.: First Class Levers  
B.: Second Class Levers  
C.: Third Class Levers  
D.: Fourth Class Levers

Correct Answer: A. First Class Levers

3. What is the formula to calculate mechanical advantage of levers?

A.: MA = load force / effort applied  
B.: MA = effort distance / load distance  
C.: MA = load distance / effort distance  
D.: MA = resistance force / load force

Correct Answer: B. MA = effort distance / load distance

4. What is the purpose of inclined planes in machines?

A.: To increase the force applied  
B.: To decrease the speed of the load  
C.: To convert circular motion to linear motion  
D.: To move a load to an intended height

Correct Answer: D. To move a load to an intended height

5. Which type of lever has the mechanical advantage greater than 1?

A.: First Class Levers  
B.: Second Class Levers  
C.: Third Class Levers  
D.: Fourth Class Levers

Correct Answer: B. Second Class Levers

6. What is the formula to calculate efficiency of a simple machine?

A.: Efficiency = MA \* VR \* 100%  
B.: Efficiency = MA / VR \* 100%  
C.: Efficiency = VR / MA \* 100%  
D.: Efficiency = VR - MA \* 100%

Correct Answer: A. Efficiency = MA \* VR \* 100%

7. In electrical circuits, what is the total resistance of a series circuit?

A.: The sum of all the resistors  
B.: The reciprocal of each resistor  
C.: The product of all the resistors  
D.: The division of all the resistors

Correct Answer: A. The sum of all the resistors

8. What is the unit of electrical resistance?

A.: Ampere  
B.: Volt  
C.: Ohm  
D.: Watt

Correct Answer: C. Ohm

9. Ohm's Law states that current is directly proportional to what?

A.: Voltage  
B.: Resistance  
C.: Power  
D.: Efficiency

Correct Answer: A. Voltage

10. What is the formula for electrical power?

A.: P = VI  
B.: P = V/R  
C.: P = I/R  
D.: P = IR

Correct Answer: A. P = VI

11. Which type of electric current always flows in one direction?

A.: Direct Current  
B.: Alternating Current  
C.: Static Current  
D.: Dynamic Current

Correct Answer: A. Direct Current

12. What is the mechanical advantage formula for levers?

A.: MA = load distance / effort distance  
B.: MA = effort arm / load arm  
C.: MA = load force / effort applied  
D.: MA = effort distance / load distance

Correct Answer: B. MA = effort arm / load arm

13. What is the purpose of gears in machines?

A.: To reduce speed  
B.: To increase torque  
C.: To decrease efficiency  
D.: To create noise

Correct Answer: B. To increase torque

14. What is the gear ratio if the driven gear has 40 teeth and the driver gear has 20 teeth?

A.: 0.5  
B.: 1  
C.: 2  
D.: 3

Correct Answer: C. 2

15. What is the purpose of an inclined plane in machines?

A.: To increase speed  
B.: To reduce force  
C.: To lift a load to a height  
D.: To decrease efficiency

Correct Answer: C. To lift a load to a height

16. In a series circuit, the total resistance is calculated how?

A.: Sum of all resistors  
B.: Product of all resistors  
C.: Reciprocal of each resistor  
D.: Difference of all resistors

Correct Answer: A. Sum of all resistors

17. What is the unit of electrical power?

A.: Watt  
B.: Ohm  
C.: Volt  
D.: Ampere

Correct Answer: A. Watt

18. Which lever class has the fulcrum between the load and the effort?

A.: First Class Levers  
B.: Second Class Levers  
C.: Third Class Levers  
D.: Fourth Class Levers

Correct Answer: A. First Class Levers

19. What is the formula for calculating mechanical advantage of inclined planes?

A.: MA = distance moved / load height  
B.: MA = load force / effort applied  
C.: MA = load distance / effort distance  
D.: MA = distance moved / effort applied

Correct Answer: A. MA = distance moved / load height

20. What is the formula for calculating the efficiency of a simple machine?

A.: Efficiency = MA \* VR \* 100%  
B.: Efficiency = VR / MA \* 100%  
C.: Efficiency = MA / VR \* 100%  
D.: Efficiency = VR - MA \* 100%

Correct Answer: A. Efficiency = MA \* VR \* 100%