

HOMEWORK

Q1) Define work.

Ans - The work done by a force on a body is equal to the product of the force applied and the distance moved by the body in the direction of force.

Q2) When does a force perform work?

Ans - Work is also done by a force if the force applied on a body changes its size or shape.

Q3) State two conditions when no work is done by a force.

Ans - A person does no work if there is no change in position or no motion even after the application of force.

Q4) In which of the following cases is work being done

Ans - b) A boy climbing up the stairs.

d) A girl moving on the road.

Q5) A coolie is moving on a road with a luggage on his head. Does he perform work against the force of gravity? Give reason for your answer.

Ans - No, there is ~~no~~ no work done against the force of gravity because the displacement and the direction of force are at an angle of 90° .

Explanation :-

walking involves doing the same amount of work against gravity as standing because the weight of the body is the same.

So, the coolie does work against gravity equal to the total weight he is carrying (his body weight and the weight of whatever he is wearing, carrying, etc.).

Q6) The moon is revolving around the Earth in a circular path. How much work is done by the moon?

Ans - No work is done by the moon when it revolves around the Earth in circular path.

Q7) Write the expression for work done by a force.

Ans - Work done by applying force F is the product of the force applied on the body and distance moved by the body in the direction of force, work done = Force \times distance moved in the direction of the force. $W = F \times d$

Q8) State the S.I. Unit of work and define it.

Ans - S.I. unit of work done is Joule. One Joule of work is said to be done if one newton force when acting on a body moves it by 1 metre in the direction of force.

Q9) State two factors on which the work done on a body depends.

Ans- * The magnitude of the force applied, and

* The distance moved by the body in the direction of force.

Q10) Define the term energy.

Ans- Energy is the capacity of doing work.

Q11) State the S.I. unit of energy.

Ans- The S.I. unit of energy is Joule (Symbol J).

Q12) Define one joule of energy.

Ans- A body is said to possess an energy of one joule if it can do one joule work or if one Joule work is done on it.