

WORK FORMULA

Work is said to be done when an object experiences displacement. It is represented by W .
Work Formula is articulated as,

$$W = F \times d.$$

Where,
force applied = F and
displacement = d

Work formula is made use of to compute work done, force or displacement in any problem. It is articulated in Nm.

Work Solved Examples

Underneath are numerical on work which helps out to comprehend the concept better.

Problem 1: Compute the work done if 10 N of force acts on the body showing the displacement of 2m?

Answer:

Known:

$$\begin{aligned} F \text{ (Force)} &= 10 \text{ N,} \\ d \text{ (Displacement)} &= 2\text{m,} \\ W \text{ (Work done)} &= F \times d \\ &= 10 \text{ N} \times 2\text{m} \\ &= 20 \text{ Nm.} \end{aligned}$$

Problem 2: Compute work done for 2-newton force and 3-metre displacement and angle between force and displacement is 45 degree?

Answer:

Known: Force $F = 2\text{N}$,
Displacement $d = 3\text{m}$,
 $\theta = 45^\circ$
Work done,

$$W = Fd \cos \theta$$

$$= 2\text{N} \times 3\text{m} \cos 45^\circ$$

$$= 3.51 \text{ Nm.}$$

