

Answer on Question #64450-Physics-Mechanics-Relativity

hi dear friend i have question about that if work is scalar quantity so if we add angle with work formula what is the ans scalar or vector

Example:

$W = F \cdot d \cdot \cos\theta$ = vector or scalar

Answer

The work is scalar quantity. It can be represented as scalar product of the force and displacement vectors:

$$W = \vec{F} \cdot \vec{d}$$

Or

$$W = Fd \cos\theta,$$

where θ is the angle between the force and displacement vectors.