A constant force of 12 n acts on a body for 4second.find the change in the linear momentum of the body constant force of 12 n acts on a body for 4second. Find the change in the linear momentum of the body

Solution:

If a force F is applied to a particle for a time interval Δt, the momentum of the particle changes by an amount:

$$\Delta p = F \cdot \Delta t,$$

$$where\ F(force) = 12N, \Delta t\ (\text{time interval}) = 4\ sec$$

$$\Delta p = F \cdot \Delta t = 12N \cdot 4\ s = 24N \cdot s$$

Answer: change in the linear momentum of the body $\Delta p = 24N \cdot s$