

A particle starts moving with speed 3m/s and accelerates for 5 seconds with acceleration 2m/s².Find the displacement of the particle?

Solution

Let's find the displacement of the particle d using the formula for displacement:

$$d = v_0 t + \frac{at^2}{2},$$

where v_0 – the initial speed of the particle, t – time and a – the acceleration.

$$d = 3 * 5 + 2 * \frac{5^2}{2} = 40 \text{ m.}$$

Answer: 40 m.