

3-7 The velocity of a motor cycle increases by an acceleration of 2 ms^{-2} and becomes 20 ms^{-1} in 5 seconds. Find the initial velocity of the car.

DATA :-

Initial velocity = ?

Final velocity = 20 ms^{-1}

Time taken = 5 secs

Acceleration = 2 ms^{-2}

SOLUTION :-

$$a = \frac{v_f - v_i}{t}$$

$$v_f = v_i + at$$

$$20 = v_i + (2)(5)$$

$$20 = v_i + 10$$

$$v_i = 20 - 10$$

$$v_i = 10 \text{ ms}^{-1}$$

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