

THE SCHRAM ACADEMY
MOTION
WORKSHEET

FORMULAS TO LEARN

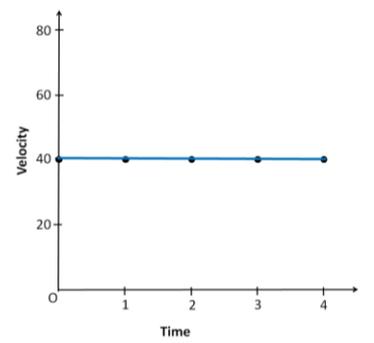
1. Speed = Distance / Time (or) $v = s / t$
2. Average speed = Total distance covered / Total time taken
3. Velocity = Displacement / Time taken
4. Acceleration = Change in velocity / Time taken (or) $a = v - u / t$
5. $v = u + at$
6. $s = ut + \frac{1}{2} at^2$
7. $v^2 - u^2 = 2as$

SI UNITS

1. Distance travelled (s) = metre (m)
2. Speed (v) = metre per second (m/s)
3. Velocity(v) = metre per second (m/s)
4. Acceleration(a) = metre per second square (m/s²)

I) Choose the correct answer:

1. Which one of the following is a vector quantity?
a) Distance b) Displacement c) Position d) Speed
2. Which one of the following is a unit of speed?
a) km b) m/s² c) km/h d) m
3. From the given velocity-time graph, it can be inferred that the object is



- a) in uniform motion b) at rest c) increasing acceleration d) decreasing acceleration

4. Slope of a velocity-time graph gives the
a) distance b) displacement c) acceleration d) speed
5. A ball dropped from a certain height is in the state of
a) rest b) motion c) both rest and motion d) none of these
6. The speed of a moving car is 30 km/h. In 15 minutes, it will cover a distance of ____
a) 15 km b) 7.5 km c) 22.5 km d) 10 km
7. The distance- graph for a body having uniform motion is a _____
a) curved line b) straight line sloping upwards c) parabola d) none of these

II) Short Answer Questions:

1. Distinguish between Scalar and vector quantity.
2. Which one of the following is a scalar quantity?
 - a) Force
 - b) Length
 - c) Displacement
 - d) velocity
3. A man walking on the road is said to be in the state of motion. Give reasons.
4. Mass is a scalar quantity. Give reasons.
5. What is the displacement of the earth when it completes one revolution around the sun?
6. A car moving at a uniform speed covers a distance of 200 m in 4 seconds. Calculate
 - a) The speed of the car
 - b) The time it will take to cover 300 m
 - c) The distance it will cover in 5 seconds

(Ans: speed=50m/s ; time=6s ; distance = 250 m)