#CRESTInnovator

CREST Science Olympiad (CSO)
Worksheet for
Class 7

Topic

Motion and its Types

Worksheet on Motion and its Types

1. **In an experiment on damped oscillation, what could be the purpose of adding damping forces like friction?**

   a. To make the motion uniform
   b. To make the motion random
   c. To slow down and eventually stop the oscillations
   d. To increase the amplitude of oscillation

2. **A person walks 10 metres north, then turns around and walks 6 metres south. What is his displacement?**

   a. 4 metres north
   b. 4 metres south
   c. 16 metres north
   d. 16 metres south

3. **Select the statement that accurately describes the difference between random motion and non-uniform motion.**

   a. Random motion occurs only in gases, while non-uniform motion occurs in liquids and solids.
   b. Random motion has no specific pattern, while non-uniform motion has a predictable pattern.
   c. Random motion is unpredictable, while non-uniform motion involves changing speed or direction.
   d. Random motion is faster than non-uniform motion.

4. **In Simple Harmonic Motion (SHM), the restoring force is directly proportional to:**

   a. The object's velocity
   b. The object's displacement from the centre
   c. The object's mass
   d. The object's acceleration

5. **Two friends start at the same point and walk in different directions. What can be said about their displacements?**

   a. They will be equal in magnitude and opposite in direction.
   b. They will be equal in magnitude and direction.
   c. They will be different in magnitude and opposite in direction.
   d. They will be different in magnitude and direction.

1. c - The purpose of adding damping forces like friction in an experiment on damped oscillation is to slow down and eventually stop the oscillations. This allows for the study of the effects of damping on the motion of the object.

2. b - Displacement is the change in position from the starting point to the ending point, taking into account both magnitude and direction.
   To find the displacement, we need to consider the net effect of the person's movements. Since they moved 10 meters north and then 6 meters south, the net displacement is the difference between these two distances. In this case, the net displacement is 10 metres - 6 metres = 4 metres south.

3. c - Random motion refers to the motion of an object that has no specific pattern or predictable path. It is characterised by unpredictable changes in speed and direction. On the other hand, non-uniform motion refers to the motion of an object where the speed or direction changes over time. While non-uniform motion can have variations, it still follows a certain pattern or trend.

4. b - In Simple Harmonic Motion (SHM), the restoring force is directly proportional to the object's displacement from the centre. When the object is moved away from its equilibrium position, the restoring force tries to bring it back to the centre. The farther the object is displaced, the stronger the force becomes, making it directly related to the object's displacement.

5. c - When two friends start at the same point and walk in different directions, their displacements will be different in magnitude because they are moving in different directions and covering different distances. The displacements will be opposite in direction because they are moving away from each other.

More Questions Coming Soon – Keep Learning!

Difference between Ordinary & Extra-Ordinary is that "Little Extra"

Discover Our Ultimate Prep Kits!

Buy Previous Years Papers

1. Login at www.crestolympiads.com/login
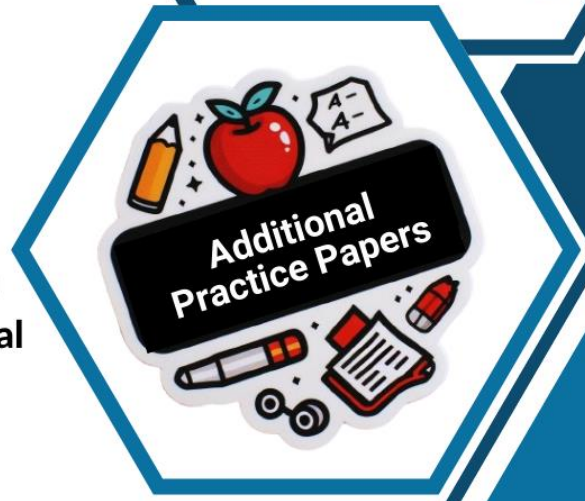2. Go to Dashboard -> Additional Practice -> Buy

Buy Physical & Digital Workbooks at

https://www.crestolympiads.com/olympiad-books

Buy Additional Practice

1. Login at www.crestolympiads.com/login
2. After login, go to Dashboard -> Additional Practice -> Buy

@crestolympiads   info@crestolympiads.com   +91-98182-94134