INTERNATIONAL INDIAN SCHOOL BURAIDAH

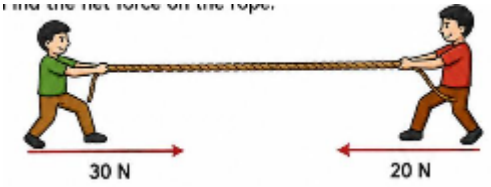
WORKSHEET FOR THE ACADEMIC YEAR 2026-27

Class-9 Subject: Physics

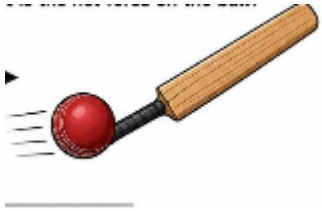
CHAPTER 06: HOW FORCE AFFECT MOTION

1. A box is pushed with a force of 25 N towards the right. Friction acts on it with a force of 10 N towards the left. What is the net force on the box?

2. Two people pull a rope in opposite directions. One pulls with 30 N and the other with 20 N. Find the net force on the rope.



3. A player hits a ball with a force of 50 N. If the opposing air resistance is 8 N, what is the net force on the ball?



4. Suman pushes a box with a force of 40 N, but it does not move. What can you conclude?
   a. No force is acting on the box
   b. Force of friction is greater than 40 N
   c. Net force on the box is zero
   d. Box has no mass.

5. A boy throws a tennis ball and a cricket ball with the same force. Which statement is correct?
   a. Both balls get the same acceleration.
   b. The tennis ball gets more acceleration.
   c. The cricket ball gets more acceleration.
   d. Both balls remain at rest.

6. A force produces acceleration of 4 m/s^2 in a mass of 2 kg. What acceleration will the same force produce in 4 kg mass?
   a. 2 m/s^2
   b. 4 m/s^2
   c. 6 m/s^2
   d. 8 m/s^2

7. This question consists of an Assertion (A) and a Reason (R). Read the Assertion and Reason and choose the appropriate answer.
   Assertion (A): A fielder pulls his hands backwards while catching a fast ball.
   Reason (R): Increasing the time of stopping increases the force applied.
   a. Both A and R are true, and R is the correct explanation of A.
   b. Both A and R are true, but R is not the correct explanation of A.

c. A is true, but R is false.
d. A is false, but R is true.

8. A particle is moving up an inclined plane. Its velocity changes from 25m/s to 10m/s in 5 seconds. What is its acceleration?
9. The velocity changes from 35m/s to 60m/s in 3 seconds. What is its acceleration?
10. A train is travelling at a speed of 40 km/ h. Brakes are applied so as to produce a uniform acceleration of $-0.5\ ms^{-2}$. Find how far the train will go before it is brought to rest.
11. A particle with a velocity of 5m/s a t=0 moves along a straight line with a constant acceleration of 0.2m/s 2. Find the displacement of the particle in 15s?

12. Read the paragraph and answer the following questions.

A rocket is launched into the sky by burning fuel. Its engine produces gas and expels it in the downward direction at a very high speed from the bottom of the rocket. As a result, the rocket starts moving upward and gains speed as more fuel burns. The rocket continues to rise higher as long as gas is expelled with larger force

a. Why does the rocket move upward when gas is expelled downward?
b. Why must the gas be expelled at very high speed?

13. State third law of motion. Give two examples in support of this law.