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Force & Pressure Worksheet

2026 – 2027

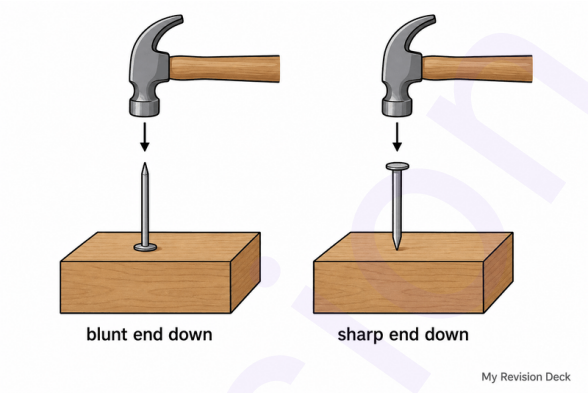
Grade: 8 **Subject:** Physics

Time: 15 minutes **Maximum Marks:** 15

Section A

1. **Choose the correct answer**

(i) The image shows two identical hammers striking two nails with equal force — one nail is held with its flat blunt end on the wooden block, while the other is held with its sharp end on the block. Which nail enters the block, and why? [1]



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(a) Sharp end gives greater thrust for the same pressure
(b) Blunt end gives greater pressure for the same thrust
(c) Sharp end gives greater pressure for the same thrust
(d) Sharp end gives less pressure, so the wood gives way

(ii) Assertion (A): The water pressure at the bottom of a narrow pipe filled with water to a height of 2 m is greater than at the bottom of a wide tank filled with water to a depth of 1 m. [1]
Reason (R): The pressure of a liquid at a point depends on the volume of the liquid in the container.

(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

2. **Fill in the blank**

The net upward force experienced by a body immersed in a liquid, arising from the greater pressure on its bottom than on its top, is called _____. [1]

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3. **Name the following**

Name the cause that can change the state of rest or motion of a body, or change its size or shape. [1]

4. Define 'Thrust'. [1]

5. How do you demonstrate that a liquid exerts pressure in all directions? Briefly describe an experiment. [2]

6. When a force is applied on a body that is pivoted at a point, the body can rotate about the pivot. The turning effect of the force depends on certain factors and is measured by a quantity called the moment of force.

(i) Name the line about which a pivoted body rotates when a force is applied at another point. [1]

(ii) Define the moment of a force about a point. [1]

(iii) State the convention for the sign of moment of a force. [1]

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Section B

7. **Solve the following numericals, showing your working**

(a) The thrust on the bottom of a swimming pool of area 200 m^2 is 1.5×10^6 N. Calculate the pressure on the bottom of the pool in Pa, and the pressure in kPa. [3]

(b) A force of 12 N is applied at a perpendicular distance of 0.25 m from a pivoted point. Calculate the moment of force about the pivot. [2]

********** End of worksheet **********

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