

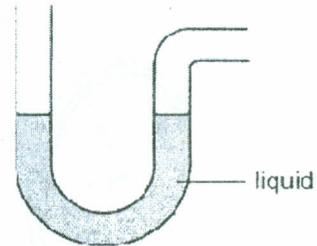


Paper1: chose the best answer:

1. The diagram shows an instrument used to measure gas pressure.

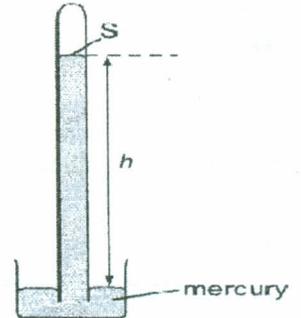
What is the instrument called?

- A. ammeter
- B. barometer
- C. manometer
- D. thermometer

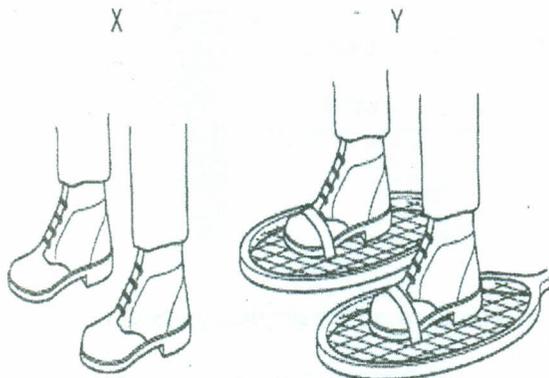


2. The diagram shows a simple mercury barometer. The barometer reading is h cm of mercury. What is the pressure at S?

- A. approximately zero
- B. atmospheric pressure
- C. atmospheric pressure + h cm of mercury
- D. h cm of mercury



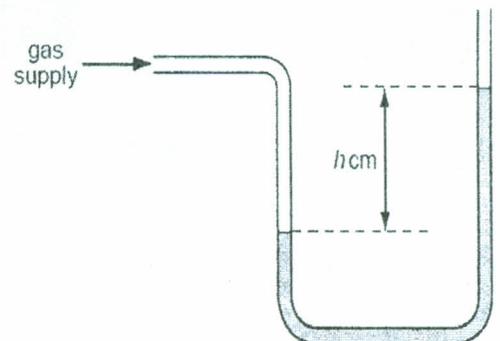
3. Two boys X and Y each have the same total weight and are standing on soft ground. Which boy is more likely to sink into the soft ground and why?



	boy more likely to sink	pressure on soft ground
<input checked="" type="radio"/> A	X	larger than Y
B	X	smaller than Y
C	Y	larger than X
D	Y	smaller than X

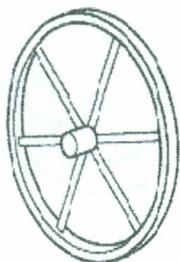
4. A water manometer is used to measure the pressure of a gas supply to a house. It gives a reading of h cm of water. Why is it better to use water rather than mercury in this manometer?

- A. h would be too large if mercury were used.
- B. h would be too small if mercury were used.
- C. The tube would need to be narrower if mercury were used.
- D. The tube would need to be wider if mercury were used.

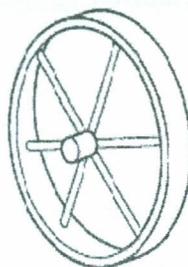


Physics for pre-IGCSE-Homework sheet "13"

5. A farmer has two carts. The carts have the same weight, but one has four narrow wheels and the other has four wide wheels.



narrow wheel

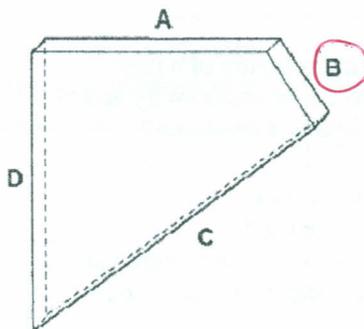


wide wheel

In rainy weather, which cart sinks less into soft ground, and why?

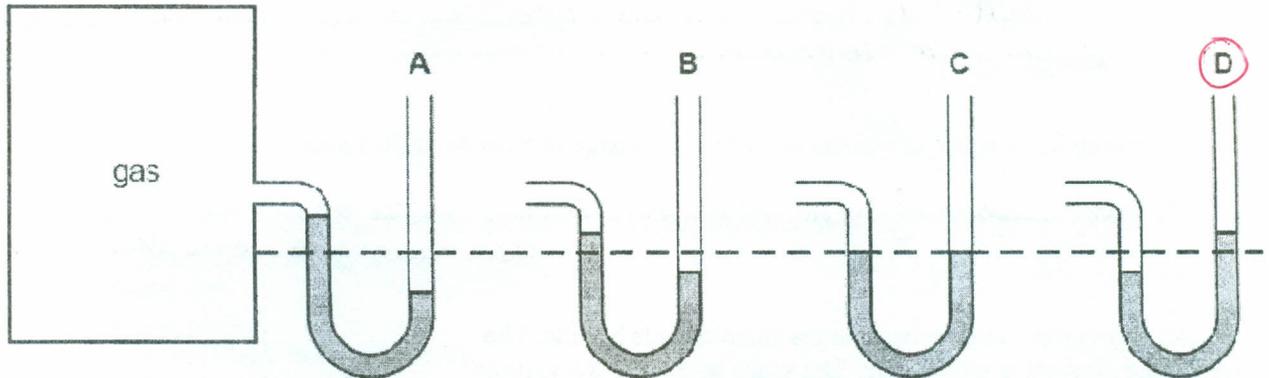
	cart wheels	why
A	narrow	greater pressure on the ground
B	narrow	less pressure on the ground
C	wide	greater pressure on the ground
D	wide	less pressure on the ground

6. The diagram shows a thick sheet of glass. Which edge must it stand on to cause the greatest pressure?

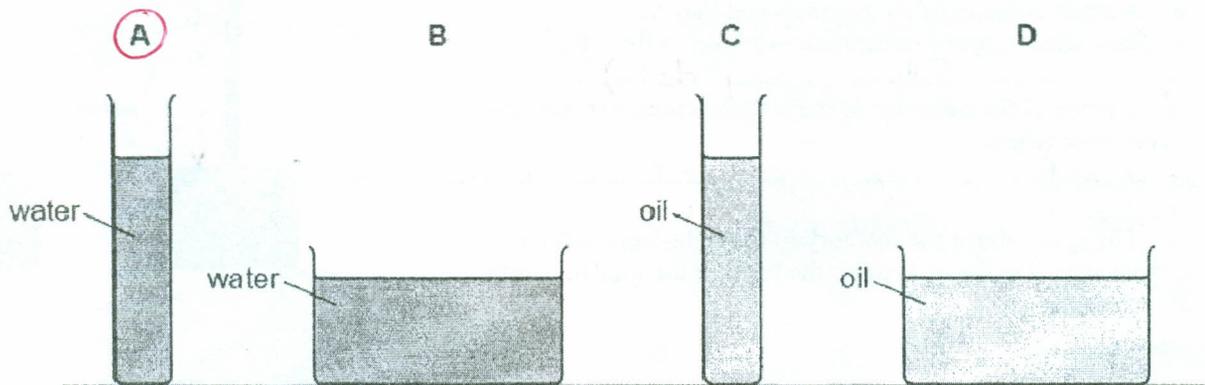


Physics for pre-IGCSE-Homework sheet "13"

7. A manometer is being used to measure the pressure of the gas inside a tank. A, B, C and D show the manometer at different times. At which time is the gas pressure inside the tank greatest?



8. A student fills two containers with water (density 1.0 g/cm^3) and two with oil (density 0.8 g/cm^3), as shown in the diagrams. In which container is the pressure on the base the greatest?



Paper 2:

1. A farmer has two vehicles with the same weight and the same number of wheels. Fig. 4.1 shows what the wheels on these two vehicles look like.

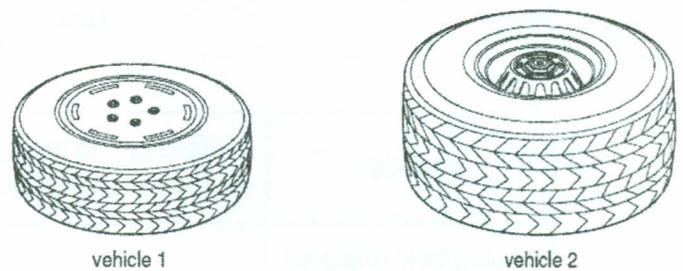


Fig. 4.1

- a. Which vehicle should the farmer use when driving across his fields when the ground is very soft? Give your reasons.

vehicle 2

reasons wide tires have larger surface area so it causes the vehicle to not have low pressure on ground to not sink.

Physics for pre-IGCSE-Homework sheet "13"

b.

- i. If you stepped on the point of a sharp nail with your bare foot, it would be extremely painful. Explain, in terms of pressure, why this is so.

Sharp nail has small surface area and as area decreases, the pressure increases.

- ii. A person can lie on a bed of nail-points if there is a large number of nails. Explain why this is **not** extremely painful.

as number of nails increases, surface area increases, which decreases pressure on skin

2. Fig. 6.1 shows two mercury barometers standing side by side. The right-hand diagram is incomplete. The space labeled X is a vacuum.

- a. On the left-hand barometer, carefully mark the distance that would have to be measured in order to find the value of the atmospheric pressure.
 b. A small quantity of air is introduced into X.

- i. State what happens to the mercury level in the tube.

falls (going down)

- ii. In terms of the behavior of the air molecules, explain your answer to (b)(i).

as air found in X, gas exerts pressure on the mercury level (surface)

- c. The space above the mercury in the right-hand barometer is a vacuum. On Fig. 6.1, mark the level of the mercury surface in the tube.

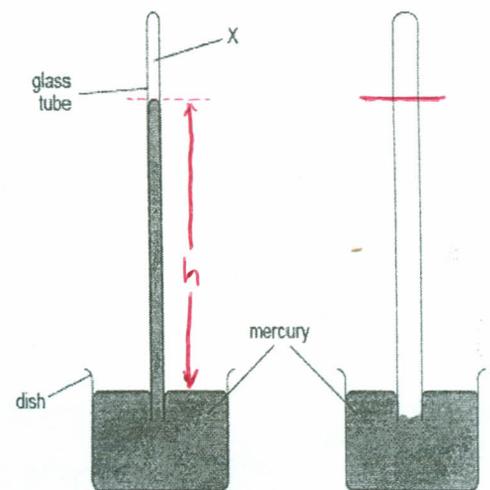


Fig. 6.1

- d. The left-hand tube now has air above the mercury; the right-hand tube has a vacuum. Complete the table below, using words chosen from the following list, to indicate the effect of changing the external conditions.

Rises

falls

stays the same

change	effect on the level of the mercury in the left-hand tube	effect on the level of the mercury in the right-hand tube
atmospheric pressure rises		
temperature rises		