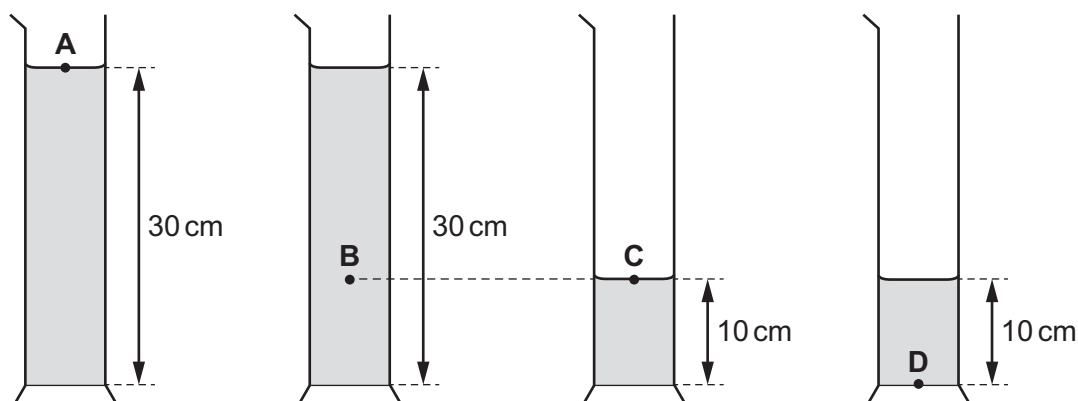
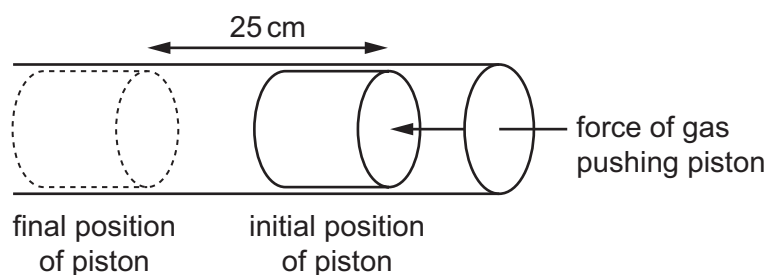


- 13** Four measuring cylinders are filled with the same liquid to the heights shown.

At which position is the pressure the greatest?



- 14** The gas in an engine does work on a piston of cross-sectional area  $80 \text{ cm}^2$ . The pressure on the piston has a constant value of  $4.6 \times 10^5 \text{ Pa}$ .



How much work is done by the gas on the piston when it moves through a distance of 25 cm?

- A**  $9.2 \times 10^2 \text{ J}$     **B**  $9.2 \times 10^4 \text{ J}$     **C**  $9.2 \times 10^6 \text{ J}$     **D**  $9.2 \times 10^8 \text{ J}$

- 15** A power station using coal as fuel has an average power output of 3000 MW. Coal is supplied by 20 trains each day. The efficiency of the station in converting the thermal energy released from the coal to electrical energy is 26%.

A mass of 1.0 kg of coal will release 33 MJ of thermal energy when burnt.

Which mass of coal does each train bring?

- A**  $2.5 \times 10^4 \text{ kg}$     **B**  $6.3 \times 10^4 \text{ kg}$     **C**  $1.5 \times 10^6 \text{ kg}$     **D**  $3.0 \times 10^7 \text{ kg}$