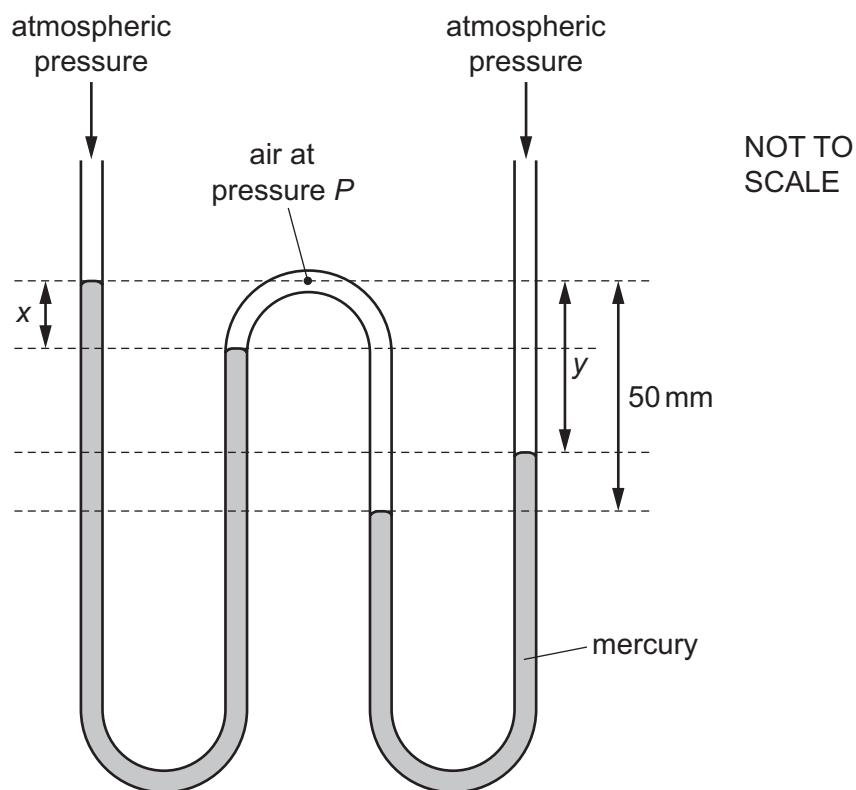


- 21 A W-shaped tube contains two amounts of mercury, each open to the atmosphere. Air at pressure P is trapped in between them. The diagram shows two vertical distances x and y .



Atmospheric pressure is equal to the pressure that would be exerted by a column of mercury of height 760 mm. The pressure P is expressed in this way.

Which values of x , y and P are possible?

| | x/mm | y/mm | $P/\text{mm of mercury}$ |
|----------|---------------|---------------|--------------------------|
| A | 20 | 20 | 780 |
| B | 20 | 30 | 780 |
| C | 30 | 20 | 810 |
| D | 30 | 30 | 790 |

- 22 A steel bar of circular cross section is under tension T , as shown.