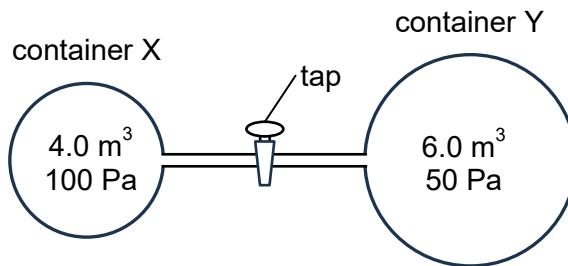


- 11 Two containers X and Y containing an ideal gas are maintained at the same temperature  $T$ . X has a volume of  $4.0 \text{ m}^3$  and Y has a volume of  $6.0 \text{ m}^3$ . The containers are joined by a tube of negligible volume that is fitted with a tap, as shown.



With the tap closed, the pressure in X is  $100 \text{ Pa}$  and the pressure in Y is  $50 \text{ Pa}$ .

The tap is open. After some time, the temperature of the gas returns to  $T$ .

What is the final pressure in the containers?

- A 70 Pa
- B 75 Pa
- C 80 Pa
- D 150 Pa