

- 12** A perfectly insulated container is divided into two equal halves by a partition. In the left half, there are 3.0 moles of helium gas at a temperature of 400 K. In the right half, there are 5.0 moles of argon gas at a temperature of 200 K.

If the partition is removed and the gases allowed to mix, what would be the final temperature of the mixture?

**A** 100 K

**B** 275 K

**C** 300 K

**D** 325 K