

6. A hydrogen balloon at the earth's surface has a volume of 5.0 m^3 on a day when the temperature is $27.0 \text{ }^\circ\text{C}$ and the pressure is $1.00 \times 10^5 \text{ N/m}^2$. The balloon rises and expands as the pressure drops. What is the volume of the balloon when it is at an altitude of 40.0 kilometers where the pressure is $0.33 \times 10^3 \text{ N/m}^2$ and the temperature is $-13.0 \text{ }^\circ\text{C}$?

A. $1.3 \times 10^3 \text{ m}^3$

B. $7.3 \times 10^3 \text{ m}^3$

C. $1.5 \times 10^3 \text{ m}^3$

D. $7.3 \times 10^2 \text{ m}^3$

E. 10 m^3

Ans. _____