

# SE Concept Question 4

\* Required

What is your full name? \*

**A balloon shall lift a payload of 1,000 kilograms, including its own mass. It can use either helium ( $r_{\text{He}}=0.2 \text{ kg/m}^3$ ) or hydrogen ( $r_{\text{H}}=0.1 \text{ kg/m}^3$ ) as a lift gas. The standard density of air is  $r_{\text{Air}}=1.3 \text{ kg/m}^3$ . \***

Which of the following requirements is infeasible? Select one answer.

- A- The balloon shall have a radius of 6.1 meters. The balloon shall use 99.9% pure helium as a lift gas.
- B – The balloon shall have a radius of 5.9 meters. The balloon shall use 99.9% pure hydrogen as a lift gas.
- C – The balloon shall have a radius of 5.9 meters. The balloon shall use 99.9% helium as a lift gas.
- D – The balloon shall have a radius of 6.1 meters. The balloon shall use 99.9% hydrogen as a lift gas.
- E – All these requirements are okay.
- F – None of these requirements are feasible.

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