



# Exam #1, Question #13

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13. In a demonstration one day, you were shown two balloons of equal volume. One contained helium, and one contained hydrogen. Which of the following statements is true?
- a) The pressures of the gases in the two balloons were different.
  - b) The masses of gases in the two balloons were different.
  - c) The temperatures of the gases in the two balloons were different.
  - d) The numbers of moles of gases in the two balloons were different.
  - e) At least two of the above statements (a-d) are true.
22. In a demonstration one day, you were shown two balloons of equal volume. One contained helium, and one contained hydrogen (recall that both balloons were ignited, to the delight of all). How many of the statements below are true? Assume ideal behavior.
- I. The pressures of the gas in the two balloons were different.
  - II. The temperatures of the gas in the two balloons were different.
  - III. The numbers of moles of gas in the two balloons were different.
  - IV. The masses of gas in the two balloons were different.
- a. 0      b. 1      c. 2      d. 3      e. 4