

This print-out should have 14 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering. The due time is Central time.

Lyon e5 q1b

14:05, general, multiple choice, < 1 min, fixed.

001

At STP, 0.250 L of chlorine gas will have a mass of

1. 0.791 g.
2. 0.356 g.
3. 2.80 g.
4. 0.424 g.
5. 11.2 g.

Mlib 63 6062

14:05, general, multiple choice, > 1 min, fixed.

002

22.4 liters of CO₂ at STP, 0°C and 1 atm, contains how many molecules? (Assume CO₂ is an ideal gas.)

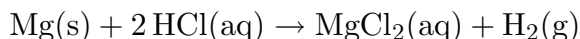
1. 6.02×10^{23} molec
2. 1.8×10^{24} molec
3. 0 molec
4. 1 molec
5. 3 molec

Mlib 04 1095 alg

14:08, general, multiple choice, < 1 min, wording-variable.

003

If sufficient acid is used to react completely with 10.5 grams of Mg,



what volume of hydrogen at STP would be produced?

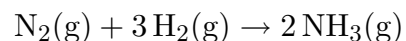
1. 9.68 liters
2. 4.84 liters
3. 19.4 liters
4. 10.6 liters
5. 22.4 liters

Mlib 04 1097

14:08, general, multiple choice, > 1 min, fixed.

004

If the reaction



is carried out at constant temperature and pressure, how many liters of H₂ are required to react with 7.20 liters of N₂?

1. 21.6
2. 2.40
3. 14.4
4. 43.2
5. Cannot be determined.

Mlib 76 2078

14:06, general, multiple choice, > 1 min, fixed.

005

In the ideal gas law equation $PV = nRT$, R is known as

1. the universal gas constant.
2. the pressure.
3. a radian.
4. a revolution.

Trial

14:01, basic, numeric, < 1 min, wording-variable.

006

a) Convert a pressure of 1.75 atm to kPa. Answer in units of kPa.

007

b) Convert a pressure of 1.75 atm to mm Hg. Answer in units of mm Hg.

Brodbelt 12 01

14:06, general, multiple choice, > 1 min, fixed.

008

HF is a corrosive gas. At 2.0 atm and 300 K, HF occupies a 4.50 L volume. How many grams of HF are in the volume?

1. 7.3 g
2. Not enough information is given.
3. 2.74 g
4. 15.6 g
5. 4.82 g
6. 0.573 g

Mlib 04 1153

14:06, general, multiple choice, > 1 min, fixed.

009

What is the volume occupied by 0.17 grams of gaseous H₂S at 27°C and 380 torr?

1. 0.0222 L
2. 0.246 L
3. 2.24 L
4. 2.46 L
5. 0.275 L

Mlib 04 1083

14:10, general, multiple choice, > 1 min, fixed.

010

Identify the correct statement regarding the Kinetic Molecular Theory.

1. Gas particles are closely associated with each other.
2. Gas molecules are moving very slowly.
3. Intermolecular forces are strong.
4. Collisions are effective (inelastic).
5. As temperature decreases, this causes velocity to decrease.

Lyon h12 01

14:06, general, multiple choice, < 1 min, normal.

011

A sample of dangerously reactive fluorine gas is contained in a stainless steel container which has a 30 L capacity at a pressure of 160 pounds per square inch and a temperature of 26.0°C. What mass of fluorine gas sample is in the stainless steel container?

1. 505.512 g
2. 9.9772 g
3. 17.7372 g
4. 26.6059 g
5. 6.65147 g

Mlib 04 1113

14:06, basic, multiple choice, > 1 min, fixed.

012

In the ideal gas equation, which term is always constant?

1. P
2. V
3. n

4. R

5. T

Mlib 04 1001

14:06, general, multiple choice, > 1 min, fixed.

013

A 2.00 mole sample of gas is at a temperature of 100.0°C and occupies 3.00 liters. What is its pressure?

1. 0.0500 atm
2. 0.180 atm
3. 5.50 atm
4. 20.4 atm
5. The correct answer is not given.

Mlib 76 2078

14:06, general, multiple choice, > 1 min, fixed.

014

In the ideal gas law equation $PV = nRT$, R is known as

1. the universal gas constant.
2. the pressure.
3. a radian.
4. a revolution.