NEW BRUNSWICK CHEMISTRY 111-112 · UNIT E · 25 QUESTIONS

Stoichiometric Calculations, Limiting Reagents, and Gas Laws — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **In a reaction, 2 moles of A react with 1 moles of B to make product. Starting with 4 moles of A, the moles of B needed are**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **In a reaction, 1 moles of A react with 1 moles of B to make product. Starting with 2 moles of A, the moles of B needed are**

ANSWER _____

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3 **In a reaction, 3 moles of A react with 1 moles of B to make product. Starting with 6 moles of A, the moles of B needed are**

ANSWER _____

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4 **A gas at pressure 100 kilopascals occupies 6 litres. At constant temperature its pressure is changed to 200 kilopascals. Its new volume, in litres, is**

ANSWER _____

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5 **A gas at pressure 120 kilopascals occupies 5 litres. At constant temperature its pressure is changed to 300 kilopascals. Its new volume, in litres, is**

ANSWER _____

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6 **A gas at pressure 80 kilopascals occupies 9 litres. At constant temperature its pressure is changed to 240 kilopascals. Its new volume, in litres, is**

ANSWER _____

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7 **A gas occupies 300 millilitres at 300 kelvin. At constant pressure its temperature is changed to 600 kelvin. Its new volume, in millilitres, is**

ANSWER _____

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8 **A gas occupies 200 millilitres at 200 kelvin. At constant pressure its temperature is changed to 400 kelvin. Its new volume, in millilitres, is**

ANSWER

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9 **A gas occupies 150 millilitres at 300 kelvin. At constant pressure its temperature is changed to 900 kelvin. Its new volume, in millilitres, is**

ANSWER

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10 **At standard temperature and pressure one mole of gas occupies 22.4 litres. A sample occupying 44.8 litres at standard temperature and pressure contains, in moles**

ANSWER

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11 **At standard temperature and pressure one mole of gas occupies 22.4 litres. A sample occupying 67.2 litres at standard temperature and pressure contains, in moles**

ANSWER

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12 **At standard temperature and pressure one mole of gas occupies 22.4 litres. A sample occupying 112.0 litres at standard temperature and pressure contains, in moles**

ANSWER _____

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13 **The limiting reagent is the reactant that is**

A used up first

B left over

C present in excess

D never used

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14 **The theoretical yield is the**

- A product actually collected, weighed at the end of the experiment in the laboratory
- B maximum product predicted by calculation
- C reactant left over
- D smallest product possible

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15 **Percent yield compares actual yield to**

- A limiting reagent mass
- B excess reagent mass
- C theoretical yield
- D reactant mass only

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16 **Boyle law states that at constant temperature, gas pressure varies**

A directly with volume

B directly with temperature

C inversely with mass

D inversely with volume

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17 **Charles law states that at constant pressure, gas volume varies**

A directly with absolute temperature

B inversely with absolute temperature

C directly with pressure

D inversely with mass

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18 **The combined gas law combines Boyle law, Charles law, and**

A Dalton law only

B pressure temperature law

C Avogadro law only

D Hess law

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19 **Stoichiometry uses mole ratios from the**

A unbalanced equation

B periodic table only

C balanced equation

D molar masses only

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20 **At standard temperature and pressure, one mole of gas occupies about**

A 10 litres

B 44.8 litres

C 1 litre

D 22.4 litres

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21 **A gas expands when heated at constant pressure because particles**

A move faster and push outward

B slow down, moving less and less until they barely move at all

C shrink

D disappear

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22 **A reaction needs 2 moles of hydrogen for every 1 mole of oxygen. With 6 moles of hydrogen, the moles of oxygen needed are**

ANSWER

Understand It with Pulse | Flag a mistake

23 **A gas at 200 kilopascals occupies 3 litres. At constant temperature its volume is changed to 6 litres. Its new pressure, in kilopascals, is**

ANSWER

Understand It with Pulse | Flag a mistake

24 **A gas at pressure 200 kilopascals occupies 3 litres. At constant temperature its pressure is changed to 100 kilopascals. Its new volume, in litres, is**

ANSWER

Understand It with Pulse | Flag a mistake

25 **A gas at pressure 160 kilopascals occupies 5 litres. At constant temperature its pressure is changed to 80 kilopascals. Its new volume, in litres, is**

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	2	**10.**	2	**19.**	C
2.	2	**11.**	3	**20.**	D
3.	2	**12.**	5	**21.**	A
4.	3	**13.**	A	**22.**	3
5.	2	**14.**	B	**23.**	100
6.	3	**15.**	C	**24.**	6
7.	600	**16.**	D	**25.**	10
8.	400	**17.**	A		
9.	450	**18.**	B		

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