Lab Investigations/Scientific Method

CHEM

Name _____ Class _____ Date _____

1 By which process is a **precipitate** most easily separated from the liquid in which it is suspended?

A neutralization
B distillation
C condensation
D filtration

2 The results of testing a **colorless solution** with **three indicators** are shown in the table.

Which formula could represent the **solution** tested?

Indicator	Result
red litmus	blue
blue litmus	blue
phenolphthalein	pink

A NaOH(aq) **C** $C_6H_{12}O_6$(aq)
B HCl(aq) **D** $C_{12}H_{22}O_{11}$(aq)

3 After being ignited in a Bunsen burner flame, a piece of magnesium ribbon **burns brightly**, giving off heat and light. In this situation, the Bunsen burner **flame** provides

A ionization energy
B activation energy
C heat of reaction
D

4 When an **equilibrium** exists between the dissolved and the undissolved solute in a solution, the solution must be

A diluted
B saturated
C supersaturated

5 V
a
r

A
B
C
D

7 T
d
c

V
of water in the **original** sample?

12.0	8.0
20.0	8.0
30.0	8.0

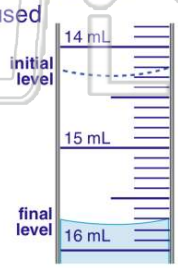
A 10% **C** 60%
B 20% **D** 80%

A is endothermic
B is exothermic
C produces an acid solution
D produces a salt solution

9 The diagram below represents a section of a **buret** containing acid used in an acid-base titration.

What is the **total volume** of acid that was used?

A 1.10 mL **C** 1.40 mL
B 1.30 mL **D** 1.45 mL



10 A student **investigated** the physical and chemical properties of a sample of an unknown gas then **identified** the gas. Which statement represents a **conclusion** rather than an experimental observation?

A The gas is colorless.
B The gas is carbon dioxide.
C When the gas is bubbled into limewater, the liquid becomes cloudy.
D When placed in the gas, a flaming splint stops burning.

ANSWER KEY

By which process is a **precipitate** most easily separated from the liquid in which it is suspended?

A neutralization
B distillation
C condensation
D filtration

d

The results of testing a **colorless solution** with **three indicators** are shown in the table.

Which formula could represent the **solution** tested?

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blue litmus	blue
phenolphthalein	pink

A NaOH(aq)
B HCl(aq)
C $C_6H_{12}O_6(aq)$
D $C_{12}H_{22}O_{11}(aq)$

a

After being ignited in a Bunsen burner flame, a piece of magnesium ribbon **burns brightly**, giving off heat and light. In this situation, the Bunsen burner **flame** provides

A ionization energy
B activation energy
C heat of reaction
D heat of vaporization

b

When an **equilibrium** exists between the dissolved and the undissolved solute in a solution, the solution must be

A diluted
B saturated
C supersaturated
D unsaturated

b

20.0	8.0
30.0	8.0

A 10%
C 60%
B 20%
D 80%

B is exothermic
C produces an acid solution
D produces a salt solution

The diagram below represents a section of a **buret** containing acid used in an acid-base titration.

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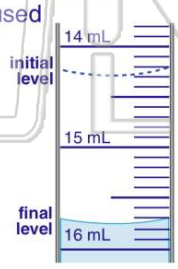

d

A student **investigated** the physical and chemical properties of a sample of an unknown gas then **identified** the gas. Which statement represents a **conclusion** rather than an experimental observation?

A The gas is colorless.
B The gas is carbon dioxide.
C When the gas is bubbled into limewater, the liquid becomes cloudy.
D When placed in the gas, a flaming splint stops burning.

b