This print-out should have 20 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering. The due time is Central time.

Msci 02 1127

03:02, general, multiple choice, > 1 min, fixed.

001

One mole of F_2 gas

1. weighs 19.0 grams.

2. contains 6.02×10^{23} F atoms.

3. contains 1.20×10^{24} F atoms.

4. weighs 6.02×10^{23} grams.

Msci 02 0608

03:03, general, multiple choice, > 1 min, fixed.

002

What is the formula weight of calcium carbonate?

1. 80.3

2. 91.7

3. 100.1

4. 114.9

Mlib 00 8031

03:03, general, multiple choice, > 1 min, fixed.

003

What is the formula weight of chromium(III) nitrate?

1. 114.0 g/mol

2. 218.0 g/mol

3. 238.0 g/mol

4. 290.0 g/mol

5. 190.0 g/mol

Mlib 76 0019

03:02, general, multiple choice, > 1 min, fixed.

004

Which of the following has the same number of atoms as 23.0 g of sodium?

1. 40.1 g of calcium

2. 19.0 g of potassium

3. 23.0 g of calcium

4. 18.0 g of water

Brodbelt 452

03:06, general, multiple choice, < 1 min, fixed.

005

0.723 moles of ZnO_2 would weigh

1. 70.4 g.

2. 0.00742 g.

3. 135 g.

4. 58.9 g.

5. 45.6 g.

6. 62.2 g.

Mlib 01 0607

03:02, general, multiple choice, > 1 min, fixed.

006

How many moles of carbon are in 8.00 moles of $C_{12}H_{22}O_{11}$?

1. 8.00 mol

2. 88.0 mol

3. 10.0 mol

4. 96.0 mol

Mlib 76 2064

03:06, general, multiple choice, > 1 min, fixed.

007

How many molecules are in 237 g (about a cup) of water?

1. 7.93×10^{24} molec

2. 13.1 molec

3. 4267 molec

4. 6.02×10^{23} molec

5. 9.27×10^{25} molec

6. 4.61×10^{24} molec

Mlib 01 0007

03:07, general, multiple choice, > 1 min, fixed.

008

A compound was analyzed and found to have the following percentage composition
hydrogen, 2.056%
sulfur, 32.69%
oxygen, 65.26%
Calculate the empirical formula of the compound.

1. H_2SO_4

2. H_2SO_3

3. HSO

4. $H_4S_2O_6$

5. masses are needed to answer questions

Mlib 01 0035

03:07, general, multiple choice, > 1 min, fixed.

009

What is the simplest formula for a compound that is 87.5% nitrogen and 12.5% hydrogen by mass?

1. NH_2

2. NH_3

3. N_2H_5

4. N_2H_3

5. N_3H_2

Mlib 01 0001

03:07, general, multiple choice, > 1 min, fixed.

010

A compound consists of 65.45% C, 5.492% H, and 29.06% O on a mass basis and has a molar mass of 110 g/mol. Determine the molecular formula of the compound.

1. C_3H_3O

2. $C_6H_6O_2$

3. CHO

4. $C_5H_5O_2$

Mlib 01 2089

02:10, general, multiple choice, > 1 min, fixed.

011

Name the compound K_2CO_3.

1. potassium carbonate

2. potassium carboxide

3. potassium(II) carbonate

4. potassium carbide

Mlib 01 2255

02:10, general, multiple choice, > 1 min, fixed.

012

Which one of the following formulas is wrong?

1. calcium sulfate : $CaSO_4$

2. sodium nitrate : $NaNO_3$

3. potassium chloride : KCl

4. ammonium perchlorate : NH_4ClO_3

5. sodium sulfate : Na_2SO_4

Mlib 01 0519

03:04, general, multiple choice, > 1 min, fixed.

013

Calculate the percent nitrogen in ammonium carbonate ($(NH_4)_2CO_3$).

1. 14.53%

2. 27.83%

3. 29.16%

4. 33.34%

5. 41.33%

Msci 02 1233

03:04, general, multiple choice, > 1 min, fixed.

014

What is the percentage of carbon by weight in table sugar ($C_{12}H_{22}O_{11}$)?

1. 42.1%

2. 48.5%

3. 51.5%

4. 3.5%

5. Not enough information is given.

Mlib 01 2235

02:10, general, multiple choice, > 1 min, fixed.

015

Which of the following is likely to be the correct formula for aluminum sulfide?

1. Al_2S

2. AlS

3. Al_2S_3

4. AlS_2

Mlib 01 2091

02:11, general, multiple choice, > 1 min, fixed.

016

Name the compound SO_3.

1. sulfur trioxide

2. sulfur oxide

3. sulfate

4. sulfur(III) oxide

Sparks126

02:11, general, multiple choice, < 1 min, fixed.

017

Name the compound SCl_6.

1. sulfur hexachloride

2. sulfur chloride

3. silicon hexachloride

4. silicon chloride

5. sulfur(VI) chloride

Msci 10 0808

02:12, general, multiple choice, > 1 min, fixed.

018

The name of the acid $HClO_4$ is

1. perchloric acid.

2. hydrochlorate acid.

3. hypochlorous acid.

4. chloric acid.

Sparks acid form 003

02:12, general, multiple choice, < 1 min, fixed.

019

Choose the formula for the compound nitrous acid.

1. HNO_4

2. HNO

3. HNO_3

4. HNO_2

5. HN

6. H_3N

7. H_2NO_3

8. H_2NO_2

Mlib 75 0015

02:12, general, multiple choice, > 1 min, fixed.

020

Pick the name and formula that do NOT match.

1. $HClO_4$: chloric acid

2. H_2CO_3 : carbonic acid

3. HCl : hydrochloric acid

4. H_2SO_4 : sulfuric acid