This print-out should have 36 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

**ChemPrin3e A 01**

001 10.0 points

Consider the following properties:
I) Objects made of silver become tarnished.
II) The boiling point of ethanol is 78°C.
III) The red color of rubies is due to the presence of chromium ions.
Which is/are chemical?

1. I, II and III
2. III only
3. None of these
4. II only
5. I only
6. I and III only
7. II and III only
8. I and II only

**CIC Classify Matter W**

002 10.0 points

Which example is INCORRECTLY paired with its appropriate category?

1. carbon monoxide : compound
2. cigarette smoke : mixture
3. ice : element
4. None of these

**CIC T01 22**

004 10.0 points

What is the proper measurement of the volume represented?

1. 2.5 mL
2. 2.500 mL
3. 2.50 mL
4. 2.0 mL

**Holt da 2 rev 47**

005 (part 1 of 3) 10.0 points

A man finds that he has a mass of 100.6 kg. He goes on a diet, and several months later he finds that he has a mass of 96.4 kg. Express the mass 100.6 kg in scientific notation.

1. $10.06 \times 10^1$ kg
2. 100.6 kg
3. $1006 \times 10^{-1}$ kg
4. $100.6 \times 10^0$ kg
5. $1.006 \times 10^2$ kg
6. $0.1006 \times 10^3$ kg
006 (part 2 of 3) 10.0 points
Express the mass 96.4 kg in scientific notation.

1. $9.64 \times 10^{-1}$ kg
2. $96.4 \times 10^0$ kg
3. $0.964 \times 10^2$ kg
4. $9.64 \times 10^1$ kg
5. 9.64 kg
6. $9.64 \times 10^1$ kg
7. 96.4 kg

007 (part 3 of 3) 10.0 points
Calculate the number of kilograms the man has lost by dieting. Express with the correct number of significant figures.

1. 0 kg
2. 4.20 kg
3. 4 kg
4. 4.200 kg
5. 4.2 kg

009 10.0 points
What is the proper solution to the following equation?

$\left( \frac{27.9}{4.0} \right) - 7.6134 + 11.431 =$

1. 10.8
2. 10.7926
3. 11
4. 10.793
5. 10.79

Brodbelt 1200425
010 10.0 points
WITHDRAWN

Brodbelt 445
011 10.0 points
Which of the following numbers has the greatest number of significant figures?

1. 33,000
2. 1.2
3. 0.690
4. 0.0032
5. $4.3 \times 10^2$
6. 130

Brodbelt 10042

Liquid 01
012 10.0 points
The term for the shape of a liquid at its surface is

1. control.
2. capillarity.
3. meniscus.
4. variable.

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**Measurement 50**

013 10.0 points

? refers to how closely a measured value agrees with the correct value.

1. precision
2. accuracy

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**Measurement 51**

014 10.0 points

? refers to how closely individual measurements agree with each other.

1. precision
2. accuracy

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**Mlib 00 7535**

015 10.0 points

Identify the symbols for the elements phosphorus, potassium, silver, chlorine, and sulfur, in that order.

1. P, K, Ag, Cl, S
2. Ph, K, Ag, S, Cl
3. K, Ag, Po, Cl, S
4. P, Po, Ag, Cl, S
5. Ph, Po, Ag, Al, S

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**Mlib 04 1179**

016 10.0 points

What is NOT true of a gas?

1. The particles of a gas tend to permeate the entire volume into which they are released.

2. A gas exerts pressure continuously and in all directions on the walls of a vessel in which it is contained.

3. A gas can be compressed into a very small volume.

4. The particles of a gas are held together by strong attractive forces.

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**Mlib 76 1101**

017 10.0 points

If a substance is a liquid

1. it has a definite volume and a definite shape.
2. it is readily compressible.
3. it has a definite volume but no definite shape.
4. it has a definite shape but no definite volume.

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**Mlib 00 7009**

018 10.0 points

A pure substance composed of two or more elements chemically combined is

1. a compound.
2. a mixture.
3. a solution.
4. an atom.

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**Mlib 00 2523**

019 10.0 points

A factor of $1.0 \times 10^{-6}$ corresponds to the prefix

1. micro.
2. milli.
3. nano.
4. mega.

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**Mlib 00 2525**

020 10.0 points
A factor of $1.0 \times 10^{-9}$ corresponds to the prefix

1. milli.
2. nano.
3. pico.
4. micro.

Which answer is expressed to the nearest milligram?

1. 14.72 g
2. 14.721 g
3. 14.7 g
4. 14.7213 g

Steam is

1. a mixture.
2. a compound.
3. an element.
4. The products are different substances from the starting materials.

Which set of units is NOT in order of increasing magnitude?

1. $\mu W < kW < MW$
2. $\text{mm} < \text{cm} < \text{dm}$
3. $\mu L < \text{dL} < \text{kL}$
4. $\text{cPa} < \text{dPa} < \text{kPa}$
5. $\mu g < \text{mg} < \text{ng}$

Which of these describes a chemical property?

1. Ne is not combustible.
2. Palladium has a high boiling point.
3. $\text{NO}_2$ is an amber-colored substance.
4. Sodium is soft metal.

5. Copper is a solid at room temperature.

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**Holt da 2 1 sample 2**

**028 10.0 points**

Find the volume of a sample of wood that has a mass of 95.3 g and a density of 0.857 g/cm$^3$. Answer in units of cm$^3$.

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**Brodbelt 01 03**

**029 10.0 points**

Calculate the density of methanol (CH$_3$OH) if you know that there are 4.2 moles of methanol in 5.67 L.

1. 0.741 g/mL
2. 0.131 g/mL
3. 1334 g/mL
4. 0.0431 g/mL
5. 11.34 g/mL
6. 0.0237 g/mL

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**Msci 01 0303**

**030 10.0 points**

Which of the following is an intensive property?

1. density
2. number of moles of molecules
3. volume
4. weight
5. mass

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**STIER Q2 005**

**031 10.0 points**

Which of these statements

I) The prefix mega corresponds to $10^6$
II) The prefix kilo corresponds to $10^{-3}$
III) The prefix milli corresponds to $10^{-3}$

is (are) correct?

1. II only
2. III only
3. None of these
4. All of these
5. I only
6. II and III only
7. I and II only
8. I and III only

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**Mlib 00 7027**

**032 10.0 points**

If the symbol for the formula of a pure substance is $X_3$, the substance is

1. a mixture.
2. an atom.
3. a molecule.
4. heterogeneous.

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**Mlib 00 7057**

**033 10.0 points**

Which of these statements is NOT correct?

1. All mixtures are heterogeneous.
2. Compounds are pure substances.
3. Solutions are homogeneous.
4. Elemental substances are not mixtures.

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**Mlib 00 2057**

**034 10.0 points**

What is the zero point on the absolute scale defined as?

1. the equivalent to $0^\circ$C
2. the temperature at which water freezes and ice melts

3. the equivalent to $0^\circ$F

4. the temperature at which molecular motion ceases

5. the temperature at which water boils

SPARKS FE 0024
035 10.0 points

Convert $18^\circ$C into Kelvin.

1. 255 K
2. 291 K
3. 15.2 K
4. 318 K
5. 282 K

Mlib 71 0103
036 10.0 points

On the Kelvin scale, a temperature of $43^\circ$C is

1. 230 K.
2. 316 K.
3. 43 K.
4. 273 K.