

CHEM 1104 TEST#1

NAME:

Date: May 14, 2018

Student Number:

1. State the number of significant figures in the following measured quantities.

| Measurement | # Sig. Figs. |
|------------------------------------|---------------------|
| 104 m | |
| 4.200×10^5 s | |
| 2.10×10^8 mi ³ | |
| 0.0890 g | |
| 1.050 °C | |

2. Carry out the following conversions:

a) 2.00 hours to microseconds(μ s):

$$\begin{aligned}1 \mu\text{s} &= 1 \times 10^{-6} \text{ s} \\1 \text{ hour} &= 60 \text{ minutes} \\1 \text{ minute} &= 60 \text{ seconds}\end{aligned}$$

b) 55 mi/hour to km/min

$$\begin{aligned}1 \text{ mi} &= 1609 \text{ m} \\1 \text{ km} &= 1000 \text{ m} \\1 \text{ hour} &= 60 \text{ minutes}\end{aligned}$$

3. Perform the indicated operation and give your answer with the proper number of **significant figures**.

a) $13.25 \text{ cm} + 5.6 \text{ cm} - 7.80 \text{ cm} - 0.00186 \text{ cm} =$

b) $48.834 \text{ g} + 0.717 \text{ g} - 0.166 \text{ g} + 1025.1 \text{ g} =$

c) $265.02 \text{ mm} \times 0.000581 \text{ mm} \times 12.18 \text{ mm} =$

d) $73.0 \text{ mm} \times 1.340 \text{ mm} \times (25.31 \text{ mm} - 1.6 \text{ mm}) =$

4. Name or give the formula for each of the following ionic compounds:

a) KI

b) potassium chloride

c) calcium carbonate(chalk)

d) chromium(III) oxide

e) CuBr

5. Indicate the number of protons, neutrons, and electrons in the following:

a) ${}^{64}_{30}\text{Zn}$

b) ${}^{55}_{26}\text{Fe}^{2+}$

Answer Set for CHEM 1104 TEST#1

1. 2 pt(

| Measurement | # Sig. Figs. |
|------------------------------------|--------------|
| 104 m | 3 |
| 4.200×10^5 s | 4 |
| 2.10×10^8 mi ³ | 3 |
| 0.0890 g | 3 |
| 1.050 °C | 4 |

2. a) 7.20×10^9 μs, 1 pt; b) 1.5 km/min, 1 pt

3. (2 pt or 0.5 pt ea)

a) 11.0 cm; b) 1074.5 g; c) 1.88 mm³; d) 2320 mm³

4. (2 pt or 0.5 pt ea; can get 1 wrong)

a) potassium iodide

b) KCl

c) CaCO₃

d) Cr₂O₃

e) copper(I) bromide or cuprous bromide

5. (2 pt or 1 pt ea, -0.5 pt if neutron or electron only wrong)

a) 30 protons, 30 electrons, 34 neutrons

b) 26 protons, 24 electrons, 29 neutrons