

## CHEMISTRY – SIX-WEEK REVIEW

**Define in your own words, and give an example:**

- |                      |                    |             |
|----------------------|--------------------|-------------|
| 1) Hypothesis        | 4) Scientific law  | 7) Element  |
| 2) Experiment        | 5) Chemical change | 8) Compound |
| 3) Scientific theory | 6) Physical change | 9) Mixture  |

**How many sig.figs are in the following numbers?**

- |            |             |          |            |         |
|------------|-------------|----------|------------|---------|
| 10) 0.0090 | 11) -124.50 | 12) 3030 | 13) 570.00 | 14) 120 |
|------------|-------------|----------|------------|---------|

**Complete the math problems and express the answer in the correct number of sig.figs, according to the addition/subtraction or multiplication/division rules.**

- |                           |                      |                           |
|---------------------------|----------------------|---------------------------|
| 15) $35.7912 \times 10.6$ | 17) $202.0 / 0.0900$ | 19) $87.01 + 1204.5$      |
| 16) $777.760 - 11.0806$   | 18) $129.1 + 5.101$  | 20) $0.06789 \times 1200$ |

**Round each of the following numbers to three sig.figs:**

- |                |               |            |
|----------------|---------------|------------|
| 21) 451500     | 23) 1234.1765 | 25) 10.065 |
| 22) 0.00987654 | 24) 1983      | 26) 7986   |

**Compare and contrast (can do a two-circle Venn diagram):**

- |                                   |                                    |                              |
|-----------------------------------|------------------------------------|------------------------------|
| 27) Atomic number and mass number | 29) Ground state and excited state | 31) Electrons and neutrons   |
| 28) Atomic mass and mass number   | 30) Protons and electrons          | 32) Wavelength and amplitude |

**Give the number of protons, neutrons, and electrons in an atom of...**

- |           |            |           |
|-----------|------------|-----------|
| 33) Zn-66 | 35) Pm-147 | 37) Cl-35 |
| 34) Mg-24 | 36) Pb-209 | 38) H-3   |

**Draw the electron dot diagrams for the following elements:**

- |        |        |        |        |       |        |
|--------|--------|--------|--------|-------|--------|
| 39) Kr | 40) Rb | 41) Ga | 42) Bi | 43) O | 44) Be |
|--------|--------|--------|--------|-------|--------|

**Name each unit; identify the units as mass, volume, density, length, time, amount of substance, temperature, etc.**

- |        |                    |       |          |           |
|--------|--------------------|-------|----------|-----------|
| 45) km | 46) m <sup>3</sup> | 47) K | 48) cmol | 49) mg/mL |
|--------|--------------------|-------|----------|-----------|

**Density problems:  $D = M/V$  Show all work and units.**

- 50) What is the density of an unknown metal if a 26.75 g sample will displace 13.0 mL of water?
- 51) A sample of "Bauckium" takes up 45 cm<sup>3</sup> of space. If its density is 9.88 g/cm<sup>3</sup>, what is the mass of the Bauckium?
- 52) If the density of Bauckium is 9.88 g/cm<sup>3</sup>, and I have 75.50 g of it, how much space would it occupy?

