WS 7.4 Percentage Problems *SHOW WORK!*

1. A class is comprised of 13 boys and 19 girls. What is the % boys? % girls?

Ans: _____ _____

2. A solution is made of 14.65 g $NaNO_3$ and 56.23 g water. What is the % $NaNO_3$? % water?

Ans: _____ _____

3. 17.89 mg of iron, 34.70 mg of aluminum and 12.03 mg of cadmium are mixed together to form a metallic solution known as an alloy. What are the **% Fe**, **% Al** and **% Cd** in the alloy?

Ans: _____ _____ _____

4. 78.0 g of solution are found to contain 14.32 g of $NaNO_3$. What is the % $NaNO_3$? % water?

Ans: _____ _____

5. A mixture is 34.5% NaCl. How much NaCl is in 78.2 g of the mixture? In 78.2 kg?

Ans: _____ _____

6. An iron ore is 82.6% iron. How much iron can be extracted from 34.5 tons of the ore? From 100.0 tons of the ore?

Ans: _____ _____

7. An alloy is 3.75% silver. How much silver is needed to make 745 mg of the alloy?

Ans: _____

8. A certain procedure calls for a 28.9% KCl solution. How much of this solution can be made from 12.4 g of KCl?

Ans: _____

9. A compound is 16.35% oxygen. How much of the compound must be decomposed to produce 67.4 mg of oxygen?

Ans: _____

10. A **65,200 mg** sample of air is found to contain **3.2 mg** of carbon monoxide. What is the carbon monoxide level in: a) % b) pph c) ppt d) ppm e) ppb?

Ans: a) _____ b) _____ c) _____ d) _____ e) _____

11. The EPA considers water unfit for human consumption if it contains lead at a concentration of **50 ppb** or higher. **a)** What would this be in ppm? **b)** in %? **c)** A 2300 g sample of water is analyzed and found to contain 78.5 μg of lead... would that be considered safe to drink?

hint: μg = 10^{-6} g

Ans: _____ _____ _____

12. A water sample is found to contain a lead level of 2.80 ppm. How much lead would there be in 355 g of the sample?

Ans: _____

Ans:(IRO + 2) 0.0000050 0.00099 0.0049 0.0049 0.0208 0.049 0.050 18.4 18.62 20.67 27.0 27.0 27.68 27.9 28.5 36.3 41 42.9 49 53.70 59 79.33 81.6 82.6 412 49000

Units: % % % % % % % % % % % g g g g g mg mg kg ton ton pph ppt ppm ppm ppb