Name_____Period_____Date_____

PreAP Chemistry Homework #1

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1. Write each of the following numbers in exponential notation:
    a) 91,100 _____
    b) 0.000000075 _____
    c) 6400 _____
    d) 0.00165 _____
    e) 0.0816 _____
    f) 935 _____

2. Convert each of the following numbers in exponential notation to conventional decimal form:
    a) 2.24×10^{-5} _____
    d) 2.95×10^{-3} _____
    b) 9.3×10^{2} _____
    e) 7.35×10^{-2} _____
    c) 4.20×10^{4} _____
    f) 8.18×10^{-12} _____

3. Rewrite each number with a coefficient between one and ten (in other words, write each number in CORRECT scientific notation:
    a) 275×10^{3} _____
    d) 43.9×10^{-1} _____
    b) 92×10^{-4} _____
    e) 0.0165×10^{-2} _____
    c) 0.611×10^{5} _____
    f) 0.0641×10^{6} _____

4. How many significant figures are in each of the quantities listed below:

    a) 454 mg _____
    d) 0.0680 km _____
    g) 0.1536 g _____

    b) 0.0353 L _____
    e) 10.0 mL _____
    h) 0.0060 g _____

    c) 52.20 mL _____
    f) 3×10^{7} kg _____
    i) 1.898×10^{-3} g _____

    j) 2500 m _____

5. Round off the given quantity 7.758064 to the number of significant figures indicated:

    one _____ three _____ five _____

    two _____ four _____ six _____

6. Perform the indicated calculation and express the answer in the correct number of significant figures:

    $$\frac{0.370 \times 843 \times 0.0704}{0.0042 \times 17.10} = \text{_____}$$

7. Complete the following operations and round off the answers to the proper number of significant figures:

    a) $18.7 - 0.56 = $ _____
    b) $210.0 + 3.19 + 1765 + 2.64 = $ _____

8. Round off the quantity 4.106738 to the number of significant figures indicated:

    one _____ three _____ five _____

    two _____ four _____ six _____

9. Express each of the following in correct scientific notation with the correct number of significant figures:

    a) $(5.68 \times 10^{-4}) \times (6.52 \times 10^{4})$ _____

    b) $(7.53 \times 10^{5}) \times (1.56 \times 10^{-9})$ _____

10. Express each of the following in correct scientific notation with the correct number of significant figures:

    a) $(6.74 \times 10^{-8}) / (2.34 \times 10^{6})$ _____

    b) $(1.45 \times 10^{9}) / (9.35 \times 10^{-7})$ _____