

Scientific Notation Problems**No Calculators for Problems 1-5**

1.
$$\frac{(6 \times 10^6)(2 \times 10^3)(2 \times 10^3)}{(4 \times 10^4)} =$$

2.
$$\frac{(4 \times 10^6)(2 \times 10^3)}{(8 \times 10^{-4})(2 \times 10^4)} =$$

3.
$$\frac{(5 \times 10^6)(2 \times 10^3)(3 \times 10^3)}{(5 \times 10^4)} =$$

4.
$$\frac{(7 \times 10^6)(2 \times 10^3)(5 \times 10^3)}{(2 \times 10^4)} =$$

5.
$$\frac{(4 \times 10^6)(5 \times 10^{-3})}{(8 \times 10^{-4})(5 \times 10^3)} =$$

6. What is the ratio of Milky Way radius to our solar system radius given that, the distance from pluto to sun is 5.9×10^{12} meters and the Milky Way disk radius is 3.9×10^{20} meters. Round the coefficient to the nearest tenth.

7. The speed of light is 3×10^8 meters/second. If the sun is 1.5×10^{11} meters from earth, how many seconds does it take light to reach the earth. Express your answer in scientific notation.

8. Using the following data:

the volume of a sphere = $(4/3) (\pi)R^3$
Radius of the earth = 6.3×10^6 m.
Mass of earth = 5.9742×10^{24} kilograms

Find the density of the earth in kg/m^3 (Note: this method will only yield an approximate value for the density of the earth).

9. Given that the average density of water is 1000 kg/m^3 , what would be the average density of the earth (closest tenth) in gm/cm^3 ?