Numerical

1. Mass of silver = 100 gm = 1kg
Vol of silver = $10\ cm^3 = \frac{10}{1000000} = 10^{-5}$

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$
$$= \frac{1}{10^{-5}} = 10^5\ kg/m^3$$

$$\text{Relative density} = \frac{\text{density of Silver}}{\text{density of Water}}$$
$$= \frac{10^5}{1} = 10^5$$

2. Mass of wood = 150 g
Vol of wood = $200\ cm^3$

$$\text{Density} = \frac{m}{V} = \frac{150}{200}$$
$$= 0.75\ g/cm^3$$

b) SI system
$= 0.75 \times 1000$
$= 750\ kg\ m^3$

3. As the temp increases vol of most of the liquid also increases. When the vol increases density decreases. Similarly when temp.

decreases, the vol of most liquid decreases with increases the density

4. Relative density is the ratio of density of a substance to the density of water at 4°C.

It is unitless.

5. The density of an object determines wheather it will float or sink in another substance. An object will float if it is less dense than the liquid, it is placed in. An object will sink if it is more dense then the liquid if it is placed in.

6. A body floats in a liquid if the weight of the body is equal to the weight of the liquid displaced by it this is called law of flotation.

a) In all liquids the body experiences a buoyant force.

b) Liquid 'A' has least density.

c) Liquid 'C' has the highest density.