Density, Mass and Volume

(a)	(b)	(c)
A metal cube with side length $3\ cm$ has a mass of $62.1\ g$. Find the density of the metal in g/cm^3.	A solid cylinder has a radius of $5\ cm$ and a height of $8\ cm$. The density of the cylinder is $1.25\ g/cm^3$. Calculate the mass of the cylinder in grams to 3 significant figures.	A spherical boulder has a radius of $1.2\ m$. If the boulder has a mass of $15000\ kg$, find its density in kg/m^3. Give your answer to 3 significant figures.

(d)	(e)	(f)
A prism has a mass of $2.6\ kg$ and a density of $1.3\ kg/m^3$. If the prism has a cross sectional area of $0.8\ m^2$, calculate the length of the prism.	A wooden cuboid has dimensions $8\ cm$ by $4\ cm$ by $x\ cm$. The cuboid has density $1.1\ g/cm^3$ and mass $228.8\ g$. Find the value of x.	A cube of side length $6\ cm$ and mass $561.6\ g$ has the same density as a cylinder of mass $1176\ g$. If the radius of the cylinder is $3\ cm$, find its height.

(g)	(h)	(i)
$120\ g$ of aluminium and $380\ g$ of copper are melted down and mixed together to form an alloy. Aluminium has density $2.7\ g/cm^3$ and copper has density $8.9\ g/cm^3$. Find the density of the alloy.	Melted chocolate has a density of $0.71\ g/cm^3$ and milk has a density of $1.03\ g/cm^3$. $50\ ml$ of melted chocolate is mixed with $200\ ml$ of warm milk to make a drink. Find the density of the drink in g/cm^3.	A toy is made of a metal hemisphere with a wooden cone on top. The hemisphere has a radius of $4\ cm$. The cone also has a radius $4\ cm$, a height of $10\ cm$ and density $1.5\ g/cm^3$. If the average density of the toy is $6.1\ g/cm^3$, find the density of the metal.