Volumes and Mass using Triple Integrals

1. Find the volume of the solid bounded by $z = 9 - x^2$, $z = 0$, $y = -1$, and $y = 2$.

2. Suppose an object is bounded by the planes $x = 0$, $y = 0$, $z = 0$, and $x + 2y + 2z = 4$. Suppose also that its mass at (x, y, z) is z. Set up an expression for the total mass of the object, as well as the co-ordinates of its centre of mass.