

1. Set up integrals for the volumes of the given solids. (But don't evaluate them.)
 - (a) The solid between $z = 5 - x^2 - y^2$ and $z = 4x^2 + 4y^2$
 - (b) The solid between $z = x^2 + y^2 + 1$ and $z = x^2 + y^2 + 3$, inside $x^2 + y^2 = 4$
 - (c) The solid between $z = x^2 + y^2$ and $z = 4y$.
 - (d) The solid that lies below $z = 9 - x^2 - y^2$, above the xy -plane, and *inside* $x^2 + y^2 = 1$
 - (e) The solid that lies below $z = 9 - x^2 - y^2$, above the xy -plane, and *outside* $x^2 + y^2 = 1$
 - (f) The solid between $x^2 + (y - 1)^2 = 1$ and $x^2 + (y - 2)^2 = 4$, below $z = x^2 + y^2 + 3$, and above the xy -plane
 - (g) The solid between $z = 6 - x^2 - y^2$ and $z = \sqrt{x^2 + y^2}$
 - (h) The solid bounded by $x^2 + y^2 + z^2 = 4$, $x^2 + y^2 = 2$, and $x^2 + y^2 = 3$
 - (i) The smaller solid between $x^2 + y^2 + z^2 = 2$ and $z = x^2 + y^2$