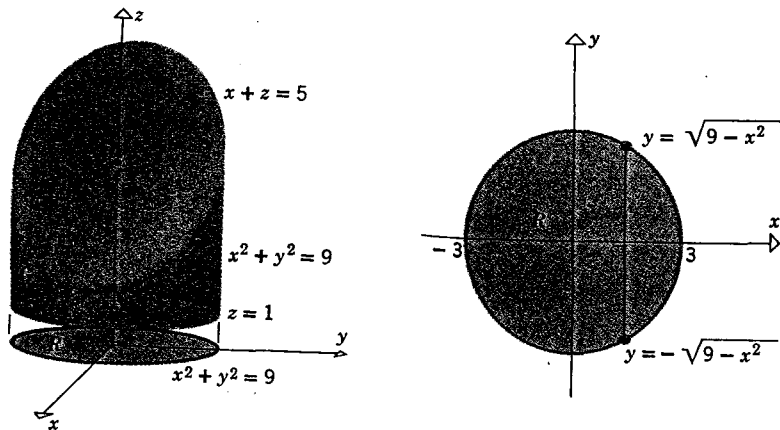
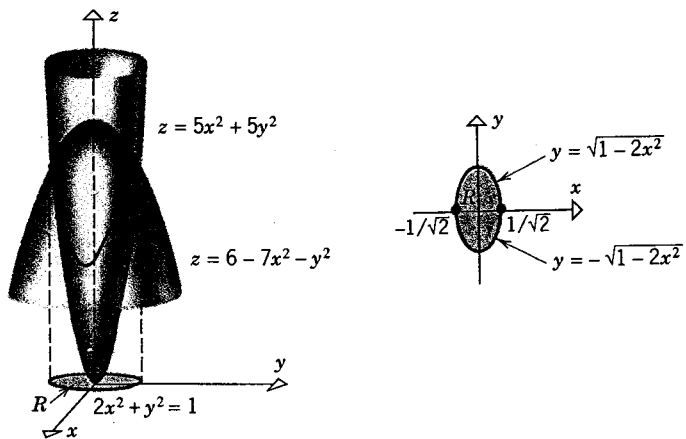


1. Use a triple integral to find the volume of the solid enclosed between the cylinder $x^2 + y^2 = 9$ and the planes $z = 1$ and $x + z = 5$. (see sketch) Use the order of integration as follows $\iiint_E dz dy dx$. That is, complete the following integral: $\int_7^2 dx \int_7^2 dy \int_7^2 dz$.



2. Find the volume of the solid enclosed by the paraboloids $z = 5x^2 + 5y^2$ and $z = 6 - 7x^2 - y^2$. (see sketch). Use the same order of integration as in problem 1.



3. Use a triple integral to find the volume of the solid bounded by the graph of $y = 4 - x^2 - z^2$ and the xz -plane. Use the same order of integration as in the above problems. Then change the order of integration to $\iiint_E dy dz dx$. (see sketch)

