1. Calculate the volume of the solid bounded above by the sphere \( x^2 + y^2 + z^2 = 1 \) and below by the cone \( 4z = 3\sqrt{x^2 + y^2} \). Justify your answer and simplify it. In particular, your answer should not involve any trigonometric or inverse trigonometric functions.

Volume: 

(simplify)