Yesterday Stuff

A certain sample of oxygen gas contains 6.57×10^{56} molecules. What is the mass and volume of this sample?

mass $6.57 \times 10^{56} \div 6.02 \times 10^{23} \times 32.00$

$$= 3.49 \times 10^{34} \text{ g}$$

6.57×10^{56} molecules $\times \dfrac{1 \text{ mol}}{6.02 \times 10^{23} \text{ molec.}} \times \dfrac{32.00 \text{ g}}{1 \text{ mol}} = 3.49 \times 10^{34} \text{ g}$

Volume

$6.57 \times 10^{56} \div 6.02 \times 10^{23} \times 22.4 = 2.44 \times 10^{34} \text{ L}$