How many atoms of sulfur are in 39.0 grams?

m(S)=39.0 g

M(S)=32 g/mol

$$N = n \times N_a = \frac{m}{M} \times N_a = \frac{39.0 \text{ g}}{32 \text{ g/mol}} \times 6.02 \times 10^{23} \text{ mol}^{-1} = 7.3369 \times 10^{23} \approx 7.34 \times 10^{23}.$$

Answer provided by www.AssignmentExpert.com