What is the mass of 3.01 * 10^23 molecules of oxygen?

Solution:

1.m(O2)=n(O2)*M(O2);

2.M(O2)=2×16=32 gram/mole;

3.n(O2)=N(O2)/Na;

Na=6.02×10^23 mole^-1;

n(O2)=3.01×10^23/6.02×10^22=0.5 mol;

4.m(O2)=0.5×32=16 gram.

Answer:m(O2)=16 gram.