A small 4.49 L oxygen tank is pressurized to 145 atm at 29.05ºC. What is the mass in grams of oxygen, O_2, under these conditions?

$V(O_2) = 4.49$ L $= 4.49*10^{-3}$ m^3

T$= 29^0$C $= 29.05 + 273 = 302.05$ K

$p = 145$ atm $= 14629$ kPa

$m(O_2)$ - ?

The ideal gas law:

$P*V = m*R*T/M$

$m(O_2) = p*V(O_2)*M(O_2)/R*T$

$m(O_2) = (14629*10^3$Pa $* 4.49*10^{-3}$ m$^3* 32$ g/mol$) / (8.31$ J/mol$*$K $* 302.05$ K$) = 837.53$ g