Example Of One Step Mole Problems - Volume

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How many liters @STP of Xe (Xenon) gas do I have if I have 32.7 moles of Xe gas?

1. ? ℓ Xe @ STP

2. 32.7 mol Xe

$\frac{22.4\ \ell}{1\ mol}$ @ STP

DA: $= (32.7\ mol\ Xe)\left(\frac{22.4\ \ell\ Xe}{1\ mol\ Xe}\ @\ STP\right)$

$x = 732.4\ \ell\ Xe$ @ STP

$\boxed{x = 732\ \ell\ Xe\ @\ STP}$

Equ:

$\#_{mol} = \frac{\#\ell}{\left(\frac{22.4\ \ell}{1\ mol}\right)}$ @ STP

$\#\ell = (\#_{mol})\left(\frac{22.4\ \ell}{1\ mol}\ @\ STP\right)$