

- _____ 10. What is the mass of 3.0 moles of calcium?
A. 120.24 grams B. 3.0 grams C. 60.0 grams D. + 6 grams

Part B:

1. How many atoms are in 72.6 moles of helium?

$$72.6 \text{ moles of He} \times \frac{6.02 \times 10^{23} \text{ atoms He}}{1.0 \text{ mole of He}} =$$

$$(72.6)(6.02) \times 10^{23} \text{ atoms} = 437.052 \times 10^{23} \text{ atoms}$$

$$(3 \text{ sig figs, teapot rule}) = 4.37 \times 10^{25} \text{ atoms Helium}$$

2. Find the number of moles in 23.15 grams of lithium bromide, which is LiBr .

$$23.15 \text{ g LiBr} \times \frac{1 \text{ mole LiBr}}{87 \text{ g LiBr}} =$$

$$0.2660 \text{ moles (correct number of sig figs is 4)}$$

3. 3.01×10^{26} atoms of nickel is equal to how many moles of nickel?

$$3.01 \times 10^{26} \text{ atoms} \times \frac{1 \text{ mole of nickel}}{6.02 \times 10^{23} \text{ atoms}} =$$

$$0.500 \times 10^3 \text{ moles} = 5.00 \times 10^2 \text{ moles} = 500. \text{ moles of Ni}$$

4. How many ATOMS are in 6.1 moles of H₂O₂ (hydrogen peroxide)

$$\frac{(6.1 \text{ moles})}{1} \times \frac{(6.02 \times 10^{23} \text{ particles})}{\text{mole}} \times \frac{(4 \text{ atoms})}{\text{molecule}} =$$

$$146.888 \times 10^{23} = 1.5 \times 10^{25} \text{ atoms (with 2 sig figs)}$$