Answer #1 ⌄

How many moles are in a 4.35 g sample of $Ca(NO_3)_2$?

$$Ca + 2(N) + 6(O)$$
$$40.08 + 2(14.01) + 6(16.00) \quad (4SF)$$
$$= 164.1\ g$$

$$4.35\ g \times \frac{1\ mol}{164.1\ g} = 0.265\ mol\ Ca\left(NO_3\right)_2$$

Problem #2

How many grams are there in a .0874 mol sample of NaCl?

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👤 Discussion 5 - Answer to #2 - ⬛⬛⬛⬛⬛⬛⬛⬛ ⌄

Question 2: How many grams are there in a .0874 mol sample of NaCl (Sodium Chloride)?

Answer:

Molar mass of NaCl= 58.4g/mol;   Moles * grams/1 mole = Grams

Na=22.98   Cl=35.45   22.98 + 35.45 = 58.4g/mole   ; ANSWER: .0874 *
58.4g/1 mole= **5.1 Grams**

QUESTION 3:

How many moles are in 320 grams of CO_2 (Carbon Dioxide)?

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Answer #3 ⌄

QUESTION #3:

How many moles are in 320 grams of CO2 (Carbon Dioxide)?

ANSWER #3:

Molecular weight of carbon: 12.011

Molecular weight of oxygen: 15.999

Carbon Dioxide contains one carbon atom weighing in at 12.011 g/mol and two atoms of Oxygen weighing in at 15.999 g/mol each atom therefore the molar mass of Carbon Dioxide is 44.009 rounded to 44.01 g/mol

320/44.01 = **7.27 moles**

Question #4:

How many moles are in 2 grams of water (H_2O)?

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