Answer on the question #54294 – Chemistry – General chemistry

Question:

An undergraduate student weighed 20g of sodium carbonate salt. If Na=23, O=16, carbon = 12and H=1, what is the mole of the hydroxide?

0.19 mole

0.75mole

0.50mole

0.25mole

Answer:

By definition, the number of moles is the ratio of mass to molar mass of the compound. Molar mass of sodium carbonate Na_2CO_3 is the sum of atomic masses:

$$n = \frac{m}{M} = \frac{20}{23*2+12+16*3} = 0.19 \; mol$$

Thus, the number of moles is 0.19.