Example Of Molar Mass Calculation And Use In Mole Problem

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How many grams of Pentanitrogen difluoride (N_5F_2) do I need to weigh out to have 3.56 moles of this molecular compound?

Example of Molar Mass Calculation

molar mass (mm N_5F_2):

$5(14\ g\ N) + 2(19\ g\ F) = \frac{108\ g\ N_5F_2}{1\ mole\ N_5F_2}$

$70.\ g\ N + 38\ g\ F$

1. ? g N_5F_2

2. $3.56\ mole\ N_5F_2$

$\frac{108\ g\ N_5F_2}{1\ mole\ N_5F_2}$

Equ: $\#_{mole} = \frac{mass}{molar\ mass}$

$\#_{mole} = \frac{\#_g}{\left(\frac{g}{mole}\right)}$

$\#_g = (\#_{mole})\left(\frac{g}{mole}\right)$

DA: $x = (3.56\ mole\ N_5F_2)\left(\frac{108\ g\ N_5F_2}{1\ mole\ N_5F_2}\right)$

$x = 384.4\ g\ N_5F_2$

$x = 384\ g\ N_5F_2$

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