Determine the number of individual particles in the following chemical substances
(**Show All work**)

1. 33 molecules H_2O $\quad 33 H_2O \mid \dfrac{1 O}{1 H_2O} = 33 O$

$33 H_2O \mid \dfrac{2 H}{1 H_2O} = 66 H$

2. 127 molecules $C_6H_{12}O_6$

$127 C_6H_{12}O_6 \mid \dfrac{6 C}{C_6H_{12}O_6} = 762 C \quad 127 C_6H_{12}O_6 \mid \dfrac{12 H}{1 C_6H_{12}O_6} = 1524 H \quad 127 C_6H_{12}O_6 \mid \dfrac{6 O}{1 C_6H_{12}O_6}$

3. 223 molecules CCl_4

$223 CCl_4 \mid \dfrac{1 C}{1 CCl_4} = 223 C \quad 223 CCl_4 \mid \dfrac{4 Cl}{1 CCl_4} = 892 Cl$
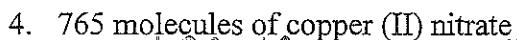
4. 765 molecules of copper (II) nitrate

$765 Cu(NO_3)_2 \mid \dfrac{1 Cu}{1 Cu(NO_3)_2} = 765 Cu \quad 765 Cu(NO_3)_2 \mid \dfrac{2 N}{1 Cu(NO_3)_2} = 1530 N$

$765 Cu(NO_3)_2 \mid \dfrac{6 O}{1 Cu(}$

5. 835 molecules of Nitrogen dioxide

$835 NO_2 \mid \dfrac{1 N}{1 NO_2} = 835 N \quad 835 NO_2 \mid \dfrac{2 O}{1 NO_2} = 1670 O$

Example: 25 CO_2
25 CO_2 * $1C/1CO_2 = 25$ C
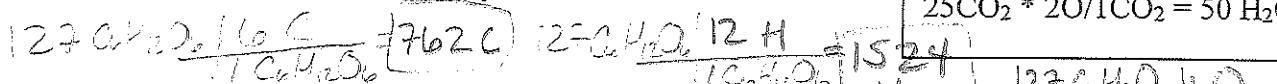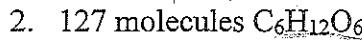
25CO_2 * $2O/1CO_2 = 50$ H_2O
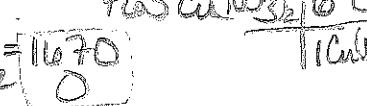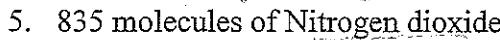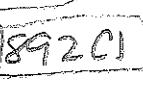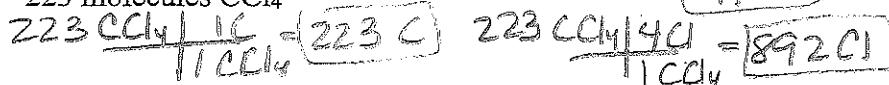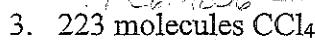
Given the following individual atoms determine the number of molecules that could be
made. (Show work)

1. 150 H (H_2O) $\quad 150 H \mid \dfrac{1 H_2O}{2 H} = 75 H_2O$

2. 25 O (H_2O) $\quad 25 O \mid \dfrac{1 H_2O}{1 O} = 25 H_2O$

3. 25 O_2 (H_2O) $\quad 25 O_2 \mid \dfrac{2 H_2O}{1 O_2} = 50 H_2O$

4. 250 N (HNO_3) $\quad 250 N \mid \dfrac{1 HNO_3}{1 N} = 250 HNO_3$

5. 1000 C $(C_6H_{12}O_6)$ $\quad 1000 C \mid \dfrac{1 C_6H_{12}O_6}{6 C} = 167 C_6H_{12}O_6$

Example: 25 C = ? CO_2

25 C * $1CO_2 /1C = 25$ CO_2