10. $m = ?$ $n \times M$

$$n = \frac{\#\text{ of atoms}}{N_A} = \frac{4.58 \times 10^{22}\text{ atoms}}{6.022 \times 10^{23}\text{ atoms/mol}}$$

$$= 0.0760(5)\text{ mol}$$

$M_{Fe} = $ ~~63.55~~ 55.85 g/mol

$m = n \times M$

$= (0.0760(5)\text{ mol})($ ~~63.55~~ 55.85 g/mol$)$

$= $ ~~4.83 g~~ 4.25 g

11. % comp. of $Fe_2O_3 \cdot 2H_2O$ Assume 1.0000 mol

$M_{Fe_2O_3 \cdot 2H_2O} = 2 \times Fe = 2 \times$ ~~63.55~~ 55.85
$3 \times O = 3 \times 16.00$
$4 \times H = 4 \times 1.01$
$2 \times O = 2 \times 16.00$
~~211.14 g/mol~~ 195.74

% Fe $= \frac{\text{~~127.10 g/mol~~ 111.70}}{\text{~~211.14 g/mol~~ 195.74}} \times 100\%$

$= $ ~~60.197%~~ 57.065%

% H $= \frac{4.04\text{ g/mol}}{\text{~~211.14 g/mol~~ 195.74}} = $ ~~1.91%~~ 2.06%

% O $= \frac{80.00}{\text{~~211.14 g/mol~~ 195.74}}$

$= $ ~~37.89%~~ 40.87%