Answer to Question #52589, Chemistry, Inorganic Chemistry
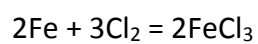
How many grams of Fe are needed to combine with 4.5 moles of Cl_2?

Solution:

$2Fe + 3Cl_2 = 2FeCl_3$

$$n(Fe) = \frac{2}{3}n(Cl_2) = \frac{4.5 \times 2}{3} = 3 \; mol$$

$$m = n \times M_r = 3 \; mol \times 55.845 \frac{g}{mol} = 167.535 \; g$$

Answer:

167.535 g