How many grams of carbon monoxide are needed to react with an excess of iron (III) oxide to produce 198.5 grams of iron? $Fe_2O_3(s) + 3CO(g) \longrightarrow 3CO_2(g) + 2Fe(s)$

Answer:
According to equation: n (CO) = 3/2 n (Fe)
n = m/M
M (Fe) = 55.9 g/mol
M (CO) = 28 g/mol
n (Fe) = 198.5 / 55.9 = 3.6 mol
n (CO) = 3/2 x 3.6 = 5.4 mol
m (CO) = n x M = 5.4 x 28 = 151.2 g

Answer provided by www.AssignmentExpert.com