Answer on Question #65151 - Chemistry - General Chemistry

Question

How many moles of ions are produced when one mole of solid magnesium chloride ($MgCl_2$) dissolves in solution(.050M)

Solution:

$MgCl_2 \rightleftarrows Mg^{2+} + 2Cl^-$

$\vartheta(Mg^{2+}) = \vartheta(MgCl_2) = 1$ mol

$\vartheta(Cl^-) = 2*\vartheta(MgCl_2) = 2$ mol

Tonal number of moles: $\vartheta(\text{ions}) = \vartheta(Mg^{2+}) + \vartheta(Cl^-) = 3$ (mol)

Answer: There are 3 moles of ions in this solution.