Answer on Question #69859 - Chemistry - Physical Chemistry

Question: For the reaction A+3B====>2C+D, initial mole of A is twice that of B. If at equilibrium moles of B and C are equal, then percent of B reacted is?

Solution:

Given: $n_{current}(B) = n_{current}(C)$

According to the reaction: $n_{current}(C) = 2/3 * n_{react}(B) = 2/3 * (n_{initial}(B) - n_{current}(B))$

$n_{current}(B) = 2/3 * (n_{initial}(B) - n_{current}(B))$

$n_{current}(B) = 2/5 * n_{initial}(B)$

$n_{react}(B) = n_{initial}(B) - n_{current}(B) = n_{initial}(B) - 2/5 * n_{initial}(B) = \textbf{3/5} * n_{initial}(B)$

Answer: 3/5 of initial mole Of B is reacted, so percent of B reacted is 60%