Quiz 3.

Ans. to the ques. no-01 :

ⓐ $P(\sim A) = 0.08 + 0.06$

$= 0.14$

ⓑ $P(A|B) = \frac{P(A \cap B)}{P(B)}$

$= \frac{0.41}{0.41 + 0.08}$

$= 0.8367$.

ⓒ From the context, $P(\sim A \cap \sim B) = 0.06$.

$P(\sim A \cap \sim B) = P(\sim A) * P(\sim B)$

So, LHS = 0.06 .

and, RHS = $P(\sim A) * P(\sim B)$

$= (0.08 + 0.06) * (0.45 + 0.06)$

RHS = 0.0714

As, RHS ≠ LHS .

So, Not injured is not independent of not participating in the movement .

ⓓ If two events are independent, but based on a condition, it is defined as conditional independent. For instance: $P(A \cap B|C) = P(A|C) * P(B|C)$.

Here, A and B are events are conditionally independent based on event C.