Step-1

(a) We have to explain that why does it takes approximately $\frac{n^2}{2}$ multiplication- subtraction steps to solve each $Lc = b \text{ and } Ux = c$

Because there are *n* unknowns are in both the systems $Lc = b \text{ and } Ux = c$, and both *L* and *U* of order *n*, so it takes $\frac{n^2}{2}$ steps to solve.

Step-2

(b) We have to find that how many steps need for elimination use in solving 10 systems with the same 60 by 60 coefficient matrix *A*.

Here $n = 10$, because there are *n* unknowns are there, so it needs $\frac{n^2}{2} = \frac{10^2}{2} = 50$, steps to solve the equations.