Step-1

a) If $Ax = b$ has two solutions x_1 and x_2, then we have to find two solutions to $Ax = 0$.

If $Ax = b$ has two solutions x_1 and x_2 then

$Ax_1 = b$ and $Ax_2 = b$

Now consider $A(x_1 - x_2)$

$= Ax_1 - Ax_2$
$= b - b$
$= 0$

Therefore $x_1 - x_2$ is a solution of $Ax = 0$

Step-2

If we consider $A(2x_1 - 2x_2)$

$= 2(Ax_1 - Ax_2)$
$= 2(b - b)$
$= 0$

Therefore $2(x_1 - x_2)$ is also a solution of $Ax = 0$

Step-3

b) We have to find another solution to $Ax = b$

If we consider

$A(2x_1 - x_2) = 2Ax_1 - Ax_2$
$= 2b - b$
$= b$

Therefore $A(2x_1 - x_2) = b$

Hence $2x_1 - x_2$ is another solution of $Ax = b$