

8. let number of deer in herd =  $8x$   
no. of deer grazing =  $\frac{1}{2} \times 8x$   
 $= 4x$   
remaining deer =  $8x - 4x$   
 $= 4x$   
no. of deer playing =  $\frac{3}{4} \times 4x$   
 $= 3x$

acc. to con.

$$4x + 3x + 9 = 8x$$
$$\Rightarrow 9 = 8x - 4x - 3x$$
$$\Rightarrow x = 9$$

$\therefore$  number of deer in herd  
 $= 8 \times 9$   
 $= 72$