

- ④ let present age of first friend = x years
 present age of second friend = $(20-x)$ years
 acc to ques.

$$(x-4)(20-x-4) = 48$$

$$\Rightarrow (x-4)(16-x) = 48$$

$$\Rightarrow -x^2 + 20x - 112 = 0$$

$$\Rightarrow x^2 - 20x + 112 = 0$$

$$a = 1, b = -20, c = 112$$

$$D = b^2 - 4ac$$

$$= (-20)^2 - 4 \times 1 \times 112$$

$$= 400 - 448$$

$$= -48$$

$\therefore D < 0$. This situation is not possible

- ⑤ let length = x m
 Perimeter = 80 m
 $2(l+b) = 80$
 $x+b = 40$
 $\Rightarrow b = (40-x)$ m
 area of rect. field = 400 m^2
 $lb = 400$
 $x(40-x) = 400$
 $\Rightarrow 40x - x^2 = 400$
 $\Rightarrow x^2 - 40x + 400 = 0$
 Comparing
 $a = 1, b = -40, c = 400$
 $D = b^2 - 4ac$
 $= (-40)^2 - 4 \times 1 \times 400$
 $= 1600 - 1600$
 $= 0$

$\therefore D = 0$

Roots are Real and Equal. So, situation is possible.

Length = Breadth = 20 m