AI1110 Assignment 1

JARUPULA SAI KUMAR CS21BTECH11023

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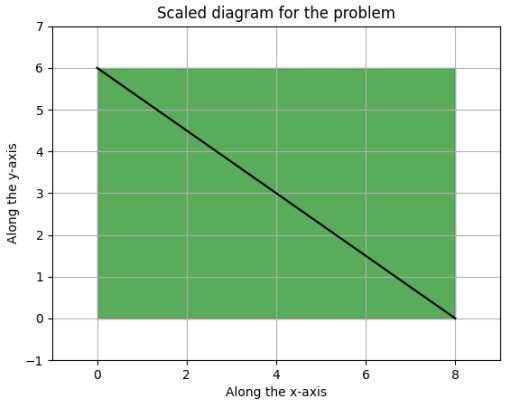
Q7(B): On a map drawn to a scale of 1 : 50,000, a rectangular plot of land ABCD has the following dimensions. AB = 6cm; BC = 8cm and all angles are right angles. Find: (i) the actual length of the diagonal distance AC of the plot in km. (ii) the actual area of the plot in sq km.



Solution: According to given question

Given Scale 1:50,000

1 Cm Represents 50,000 cm =$\cdot\frac{50{,}000}{1000\cdot100}$ = $0.5Km$

$\implies$ (1)InΔABC

By applying Pythogoras Theorem

$$\implies AC^2 = AB^2 + BC^2 \qquad (1)$$
$$\implies AC^2 = 6^2 + 8^2 \qquad (2)$$
$$\implies AC^2 = 36 + 64 \qquad (3)$$

Finally we get AC= 10 cm

$\implies lengthofdiagnolofAC = 10\cdot0.5 = 5Km$

$\implies$ (2)$WeKnowthat, AreaofRectangleABCD = AB \cdot BC$

=$6\cdot8 = 48cm^2$

$ActuallPlotofArea = 48 \cdot 0.25 = 12km^2$