

CHAPTER 15

Probability

Example:

A missing helicopter is reported to have crashed somewhere in the rectangular region as shown in the figure. What is the probability that it crashed inside the probability that it crashed inside the lake shown in the figure?

Sol.

Let 'S' be sample space that, a helicopter crashed in the rectangular region

$$\Rightarrow n(S) = (9 \times 4.5) \text{ Km}^2 = 40.5 \text{ Km}^2$$

Let 'E' be the event of getting that it crashed inside the lake,

$$\Rightarrow n(E) = (3 \times 2.5) \text{ Km}^2 = 7.5 \text{ Km}^2$$

$$\therefore P(E) = \frac{n(E)}{n(S)}$$

$$\Rightarrow P(E) = \frac{7.5}{40.5} = \frac{\frac{75}{10}}{\frac{405}{10}} = \frac{75}{405} \times \frac{10}{10} = \frac{5}{27}$$

$$\therefore P(E) = \frac{5}{27}$$

