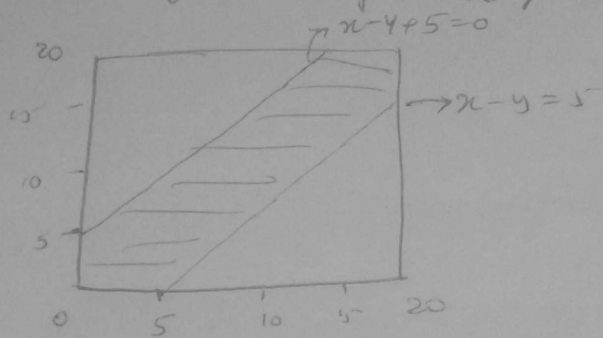


30 This is a question based on geometric probability

Let  $x$  represent the time at which one of the friends reaches the station, in the same way  $y$  for another friend



$$|x - y| \leq 5$$

$$\Rightarrow \begin{aligned} -(x - y) &\leq 5 \\ (x - y) &\geq -5 \end{aligned}$$

$$x - y \leq 5$$

$$\Rightarrow x - y + 5 \geq 0$$

$$P(|x - y| \leq 5) = \frac{\text{area of shaded}}{\text{Total area}}$$