

Que5E:

If  $X$  and  $Y$  are two sets such that  $n(X) = 17$ ,  $n(Y) = 23$  and  $n(X \cup Y) = 38$ , find  $n(X \cap Y)$ .

$$n(X) = 17, n(Y) = 23, n(X \cup Y) = 38$$

$$n(X \cap Y) = ?$$

We know that

$$n(X \cup Y) = n(X) + n(Y) - n(X \cap Y)$$

$$38 = 17 + 23 - n(X \cap Y)$$

$$38 = 40 - n(X \cap Y)$$

$$n(X \cap Y) = 40 - 38$$

$$n(X \cap Y) = 2$$