

3. In an after-school club, students can choose to take part in Art, Music, both or neither.

There are 45 students that attend the after-school club. Of these

- 25 students take part in Art
- 12 students take part in both Art and Music
- the number of students that take part in Music is  $x$

(a) Find the range of possible values of  $x$

(2)

One of the 45 students is selected at random.

Event  $A$  is the event that the student selected takes part in Art.

Event  $M$  is the event that the student selected takes part in Music.

(b) Determine whether or not it is possible for the events  $A$  and  $M$  to be independent.

(4)