Probability
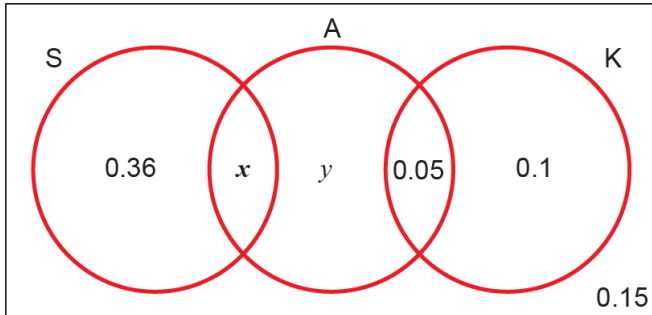
The Venn diagram shows the probabilities that members of a leisure centre attend certain classes.

S represents the event that the member attends spinning classes.

A represents the event that the member attends aerobics classes.

K represents the event that the member attends kick boxing classes.

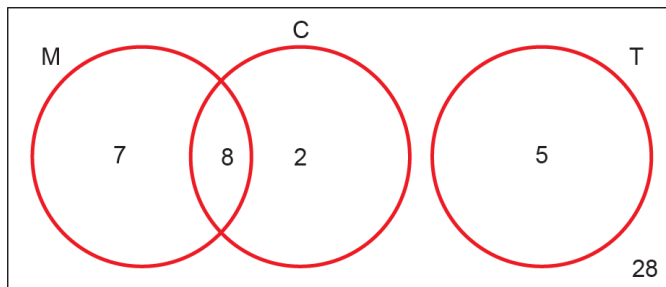Given that $P(S) = P(A)$, find the values of x and y.

A box of chocolates contains 3 milk, 1 dark and 2 white chocolates. Two chocolates are selected at random without replacement.

    a   Draw a tree diagram to illustrate all the possible outcomes and associated probabilities. State your probabilities clearly.

    b   Find the probability that a dark and a white chocolate are selected from the box.

Bronze

The Venn diagram shows subjects studied by a sample of 50 students.

The subjects they study are represented by the events:

M   Mathematics

C   Chemistry

T   Travel and Tourism

    a   Write down two of these events that are mutually exclusive. Give a reason for your answer.
    b   One person is chosen at random. Find the probability that this person studies Mathematics and Chemistry.
    c   Determine whether or not M and C are independent events.