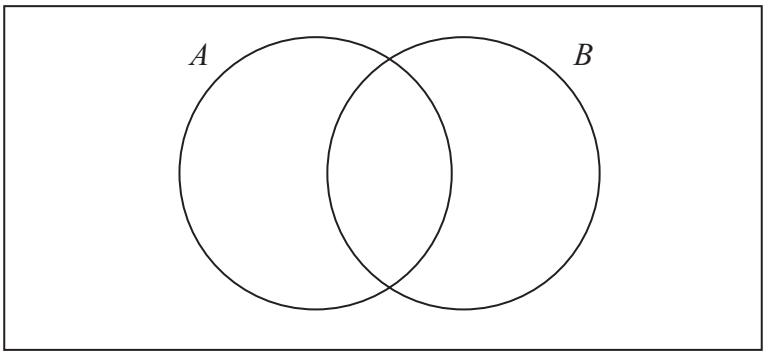
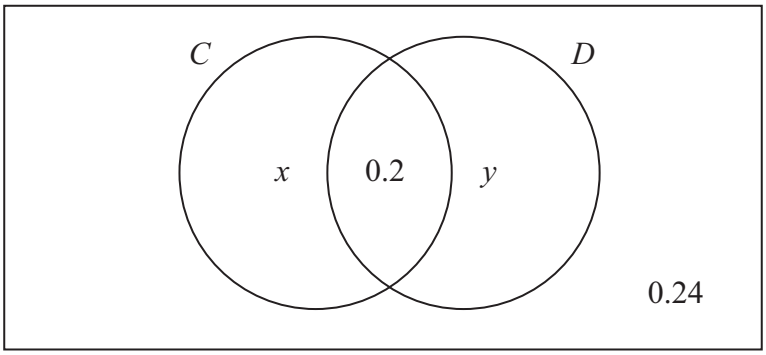
6. (a) Shade the region representing $A' \cap B'$ on the Venn diagram below.

(1)



Events C and D are shown in the Venn diagram below, where x, y, 0.2 and 0.24 are probabilities.



(b) Find an expression in terms of x for

(i) $P(C)$

(ii) $P(D \mid C)$

(2)

(c) Find an expression in terms of x and y for $P(C \cup D)$

(1)

Given that $P(C) = 3P(D)$

(d) find the value of x and the value of y

(4)

(e) State, giving a reason, whether or not the events C and D are statistically independent.

(2)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Question 6 continued

Question 6 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Question 6 continued

(Total for Question 6 is 10 marks)