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- 6 Ted has two boxes of buttons, Box A and Box B

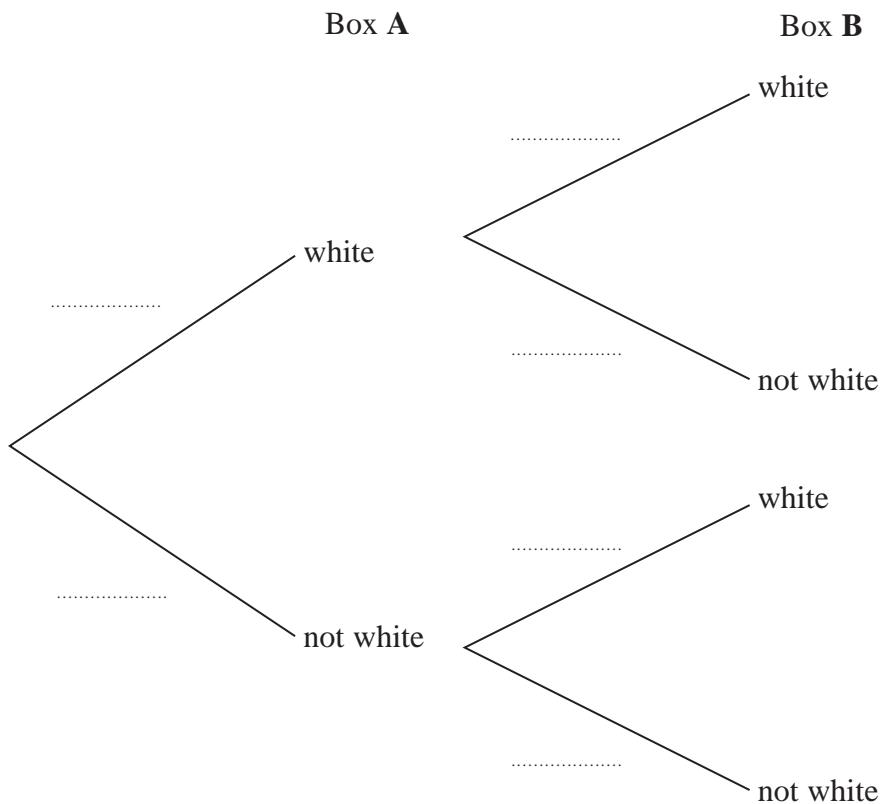
There are 20 buttons in Box A and 20 buttons in Box B

There are 13 white buttons in Box A

There are 9 white buttons in Box B

Ted takes at random a button from Box A and a button from Box B

- (a) Complete the probability tree diagram.



(2)

- (b) Calculate the probability that Ted takes at least one white button.

(3)

Ted also has a bag of buttons.

There are 30 buttons in the bag.

There are x white buttons in the bag.

Ted takes at random a button from Box A, a button from Box B and a button from the bag.

The probability that of the 3 buttons Ted has, 2 of the buttons are white is $\frac{337}{1000}$

- (c) Work out the value of x

Show clear algebraic working.

(4)



Question 6 continued

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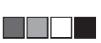


Question 6 continued

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P 7 2 4 8 0 A 0 1 9 3 6

(Total for Question 6 is 9 marks)