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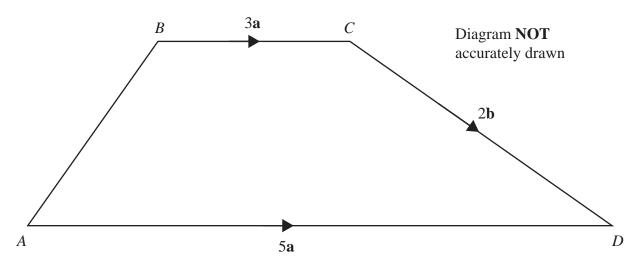


Figure 3

Figure 3 shows a trapezium ABCD

$$\overrightarrow{BC} = 3\mathbf{a}$$
 $\overrightarrow{AD} = 5\mathbf{a}$ $\overrightarrow{CD} = 2\mathbf{b}$

(a) Find \overrightarrow{AB} as a simplified expression in terms of **a** and **b**

(1)

The diagonals BD and AC intersect at point X where $\overrightarrow{BX} = k \ BD$

(b) Using a vector method, find the value of k

(5)

(c) Find the ratio of the area of triangle CXD: area of the trapezium ABCD





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Question 8 continued

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(Total for Question 8 is 10 marks)			

