

8

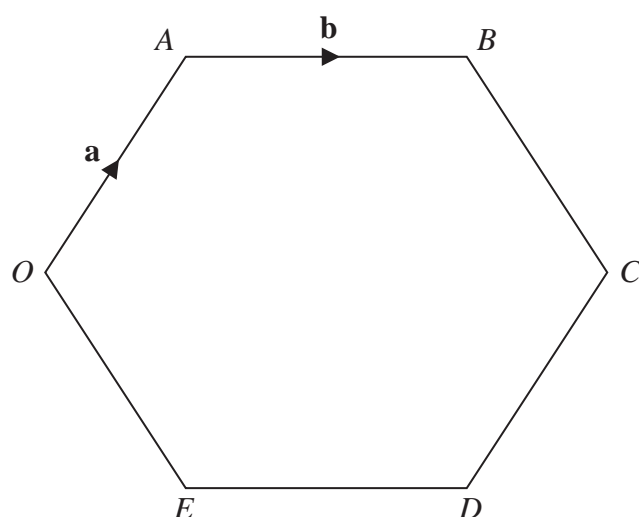
Diagram **NOT**
accurately drawn

Figure 3

Figure 3 shows the regular hexagon $OABCDE$ with $\vec{OA} = \mathbf{a}$ and $\vec{AB} = \mathbf{b}$

(a) Find \vec{OB} in terms of \mathbf{a} and \mathbf{b}

(1)

(b) Find \vec{BC} as a simplified expression in terms of \mathbf{a} and \mathbf{b}

(3)

The point M divides BC in the ratio $2:1$

(c) Find \vec{OM} as a simplified expression in terms of \mathbf{a} and \mathbf{b}

(2)

The point Y is such that OMY and ABY are straight lines.

(d) Use a vector method to find $AB:BY$

(5)

The area of hexagon $OABCDE$ is 60 cm^2

(e) Find the area of triangle OAY

(4)

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Question 8 continued

Handwriting practice area with horizontal dotted lines.



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Question 8 continued

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(Total for Question 8 is 15 marks)

