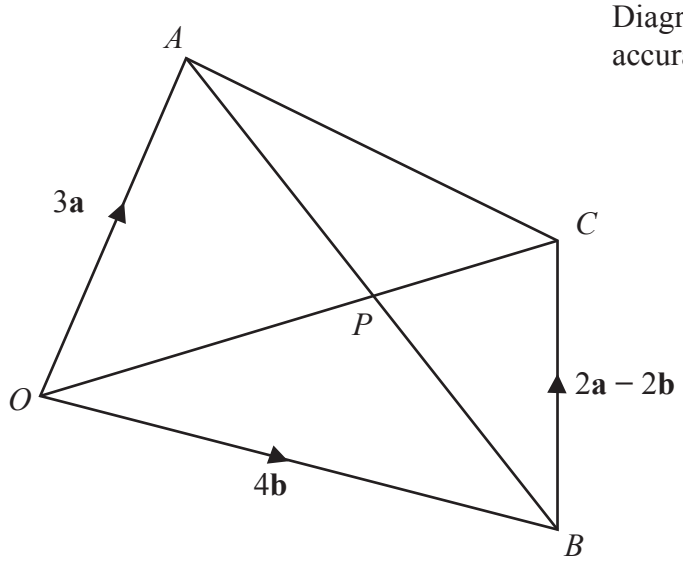
22

Diagram **NOT** accurately drawn



OACB is a quadrilateral.

$\overrightarrow{OA} = 3\mathbf{a}$ $\overrightarrow{OB} = 4\mathbf{b}$ $\overrightarrow{BC} = 2\mathbf{a} - 2\mathbf{b}$

(a) (i) Find the vector $\overrightarrow{OC}$ in terms of **a** and **b**
Simplify your answer.

$\overrightarrow{OC}$ = ...

(1)

(ii) Find the vector $\overrightarrow{AB}$ in terms of **a** and **b**

$\overrightarrow{AB}$ = ...

(1)

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The point P lies on AB and on OC

(b) Using a vector method, find the ratio $AP : PB$
Show your working clearly.

.....

(3)

(Total for Question 22 is 5 marks)

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