

**4**  $O, A$  and  $B$  are fixed points such that

$$\overrightarrow{OA} = 5\mathbf{i} + 7\mathbf{j} \quad \overrightarrow{AB} = a\mathbf{i} + 16\mathbf{j} \quad \text{and} \quad \left| \overrightarrow{OB} \right| = 5\sqrt{29}$$

- (a) Find the possible values of  $a$

(4)

Given that  $a > 0$

- (b) find a unit vector that is parallel to  $\overrightarrow{AB}$

(2)

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Question 4 continued

Handwriting practice area with horizontal dotted lines.

(Total for Question 4 is 6 marks)

