1.10 Pure: Vectors: 10-minute Pack

EDEXCEL 9MA0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 p = 4i + j, q = -i + 5j. Find p + q.

(Total for Question 1 is 1 mark)

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2 The vector a = 3i - 4j.

(a) Find |a|. **(2)**

(b) Find the unit vector in the direction of a. **(2)**

(c) Given b = -2i + 5j, find a + 2b, and hence find |a + 2b|, giving your answer to 3 significant figures. **(4)**

(Total for Question 2 is 8 marks)

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Mark scheme · 1.10 Pure: Vectors: 10-minute Pack

Question 1

3i + 6j cao	**B1**

Answer: 3i + 6j

Question 2

(a) $\sqrt{3^2 + (-4)^2}$	**M1**
(a) = 5 cao	**A1**

(a) Answer: |a| = 5

(b) divide a by |a| found in (a)	**M1**
(b) = (3/5)i - (4/5)j oe	**A1**

(b) Answer: (3/5)i - (4/5)j

(c) attempt 2b and add to a	**M1**
(c) a + 2b = -i + 6j cao	**A1**
(c) $\sqrt{(-1)^2 + 6^2}$	**M1**
(c) awrt 6.08	**A1**

(c) Answer: a + 2b = -i + 6j, |a + 2b| = awrt 6.08

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