

Question 3 continued



Question 3 continued



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Question 3 continued

Q3

(Total 9 marks)



4. (a) Express $6 \cos \theta + 8 \sin \theta$ in the form $R \cos(\theta - \alpha)$, where $R > 0$ and $0 < \alpha < \frac{\pi}{2}$.

Give the value of α to 3 decimal places.

(4)

(b) $p(\theta) = \frac{4}{12 + 6 \cos \theta + 8 \sin \theta}, \quad 0 \leq \theta \leq 2\pi$

Calculate

(i) the maximum value of $p(\theta)$,

(ii) the value of θ at which the maximum occurs.

(4)



Question 8 continued

Lined area for writing the answer to Question 8.

(Total 9 marks)

Q8

TOTAL FOR PAPER: 75 MARKS

END

