

12.

**In this question you must show all stages of your working.****Solutions relying entirely on calculator technology are not acceptable.**

(a) Show that

$$\operatorname{cosec} \theta - \sin \theta \equiv \cos \theta \cot \theta \quad \theta \neq (180n)^\circ \quad n \in \mathbb{Z} \quad (3)$$

(b) Hence, or otherwise, solve for  $0 < x < 180^\circ$ 

$$\operatorname{cosec} x - \sin x = \cos x \cot(3x - 50^\circ) \quad (5)$$



**Question 12 continued**

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Question 12 continued

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(Total for Question 12 is 8 marks)



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