

- 8 (a) Solve, to the nearest integer, the equation

$$\sin(2x - 75)^\circ = -0.515 \quad \text{for } 0 \leq x < 180 \quad (3)$$

- (b) Giving your solutions to one decimal place, where appropriate, solve the equation

$$2 \tan y^\circ + 5 \sin y^\circ = 0 \quad \text{for } 0 \leq y \leq 180 \quad (4)$$

- (c) Explain mathematically why there are no values of θ that satisfy the equation

$$3 \cos^2 \theta^\circ - 3 \sin^2 \theta^\circ + \sin \theta^\circ + 12 = 0 \quad (4)$$

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(Total for Question 8 is 11 marks)



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