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

$$\sin(2x - 75)^\circ = -0.515$$
 for $0 \le x < 180$

(3)

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

$$2\tan y^{\circ} + 5\sin y^{\circ} = 0$$
 for $0 \leqslant y \leqslant 180$

(4)

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

$$3\cos^2\theta^{\circ} - 3\sin^2\theta^{\circ} + \sin\theta^{\circ} + 12 = 0$$

(4)

	Question 8 continued
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Question 8 continued	

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