



Harder Trigonometric Equations

Revise this topic →



← Check your work

This booklet features original exam style questions designed by me. They do not feature in past papers but are good practice for your exams.

The content is designed to reflect the style of the **AQA Level 2 Certificate in Further Maths**. It may not be suitable for other courses.





Do not write
outside the
box

Answer **all** questions in the spaces provided.

1 Solve $2\cos^2\theta = \cos\theta$ for $0^\circ \leq \theta \leq 360^\circ$ [3 marks]



Answer _____

2 Solve $3\tan^2\theta = 2\tan\theta$ for $0^\circ \leq \theta \leq 360^\circ$ [3 marks]

Answer _____





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3 Solve $\sin^3\theta = \sin\theta$ for $0^\circ \leq \theta \leq 360^\circ$

[3 marks]



Answer _____

4 Solve $\frac{\sin\theta}{2} = \frac{\cos\theta}{5}$ for $0^\circ \leq \theta \leq 360^\circ$

[3 marks]

Answer _____

Turn over ►



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5 Solve $\tan^2\theta = \tan\theta + 6$ for $0^\circ \leq \theta \leq 360^\circ$ [4 marks]

Answer _____

6 Solve $4\sin^2\theta + 3 = 7\sin\theta$ for $0^\circ \leq \theta \leq 360^\circ$ [4 marks]

Answer _____





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7 Solve $2\tan^2\theta = 11\tan\theta - 5$ for $0^\circ \leq \theta \leq 360^\circ$ [4 marks]

Answer _____

8 Solve $2\cos^2\theta = 7\cos\theta - 3$ for $0^\circ \leq \theta \leq 360^\circ$ [4 marks]



Answer _____

Turn over ►





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9 (a) Show that $5\cos^2\theta - 4 \equiv 1 - 5\sin^2\theta$ **[1 mark]**

9 (b) Hence, solve $5\cos^2\theta - 4 = 4\sin\theta$ for $0^\circ \leq \theta \leq 360^\circ$ **[4 marks]**

Answer _____

10(a) Show that $\frac{4\sin\theta - 3\cos\theta}{\cos\theta} \equiv 4\tan\theta - 3$ **[1 mark]**

10 (b) Hence solve $\tan^2\theta\cos\theta = 4\sin\theta - 3\cos\theta$ for $0^\circ \leq \theta \leq 360^\circ$ **[4 marks]**

Answer _____

10

