

Name: _____

Level 2 Further Maths



Trigonometric Identities Corbettmaths

Ensure you have: Pencil or pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

www.corbettmaths.com/more/further-maths/



1. Prove $\tan\theta\cos\theta \equiv \sin\theta$

(2)

2. Show that $2 - 2\cos^2x$ is equivalent to $2\sin^2x$

(2)

3. Prove $\sin^2 x - \cos^2 x \equiv 1 - 2\cos^2 x$

(2)

4. Prove that $\sin\theta - \sin\theta\cos^2\theta \equiv \sin^3\theta$

(3)

4. Prove that $\sin^2\theta - \cos\theta \sin\theta \tan\theta \equiv 0$

(3)

5. In this question, $\cos x \neq 0$

Show that $\frac{1}{\cos^2 x} - \tan^2 x$ is equal to 1

(3)

6. Prove $(\sin\theta + \cos\theta)^2 + (\sin\theta - \cos\theta)^2 \equiv 2$

(3)

7. Prove $\tan\theta\sin\theta + \cos\theta \equiv \frac{1}{\cos\theta}$

(3)

8. Prove $\frac{\sqrt{1 - \cos^2 x}}{\cos x} \equiv \tan x$

(3)

9. Prove $\frac{1}{\tan \theta} + \tan \theta \equiv \frac{1}{\cos \theta \sin \theta}$

(3)

10. Show that $\frac{\cos\theta}{1 - \cos\theta} - \frac{\cos\theta}{1 + \cos\theta}$ is equivalent to $\frac{2}{\tan^2\theta}$

(3)