7 **(a)** Verify the identity $(2x - 1)(4x^2 + 2x - 1) \equiv 8x^3 - 4x + 1$. [1]

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(b) Prove the identity $\dfrac{\tan^2\theta + 1}{\tan^2\theta - 1} \equiv \dfrac{1}{1 - 2\cos^2\theta}$. [3]

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(c) Using the results of **(a)** and **(b)**, solve the equation

$$\frac{\tan^2\theta + 1}{\tan^2\theta - 1} = 4\cos\theta,$$

for $0° \leqslant \theta \leqslant 180°$. [5]