

1. Nov/2021/Paper_9709/21/No.7(a), (b)

(a) By first expanding $\cos(2\theta + \theta)$, show that $\cos 3\theta \equiv 4 \cos^3 \theta - 3 \cos \theta$.

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(b) Find the exact value of $2 \cos^3\left(\frac{5}{18}\pi\right) - \frac{3}{2} \cos\left(\frac{5}{18}\pi\right)$.

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2. Nov/2021/Paper_9709/22/No.7(a)

(a) Prove that $4 \sin x \sin(x + \frac{1}{6}\pi) \equiv \sqrt{3} - \sqrt{3} \cos 2x + \sin 2x$.

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