10 **(a)** Show that $\cos^4\theta - \sin^4\theta + 1 = 2\cos^2\theta$. [3]

(b) Solve the equation $\cos^4\frac{\phi}{3} - \sin^4\frac{\phi}{3} + 1 = \frac{1}{2}$, for $-3\pi < \phi < 3\pi$, giving your answers in terms of π. [5]

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