a) Show that $cos2\theta - 3cos\theta + 2 \equiv 2cos^2\theta - 3cos\theta$+1

b) Hence, solve $cos2\theta - 3cos\theta + 2 = 0$ for $0 \le \theta \le 2\pi$

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a)

$$cos2\theta - 3cos\theta + 2$$

$cos2\theta \equiv 2cos^2\theta$-1

$$cos2\theta - 3cos\theta + 2 \equiv 2cos^2\theta - 1 - 3cos\theta + 2$$

$$cos2\theta - 3cos\theta + 2 \equiv 2cos^2\theta - 3cos\theta + 1$$

b)

$$cos2\theta - 3cos\theta + 2 = 0$$

$$2cos^2\theta - 3cos\theta + 1 = 0$$

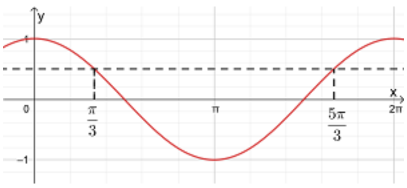
$$(2cos\theta - 1)(cos\theta - 1) = 0$$

$$cosx = \frac{1}{2}, cosx = 1$$

$$Arccos\left(\frac{1}{2}\right) = \frac{\pi}{3}$$

$$Arccos(1) = 0$$

Solve $\mathbf{0 \le x \le 2\pi}$



$$\mathbf{x = 0, \frac{\pi}{3}, \frac{5\pi}{3}, 2\pi}$$