Exercise 2

Paper 1 style · No calculator

2 **4 marks** SL 3.8 ●●○ Typical

Solve $2\cos(2x) = 1$, for $0 \leq x \leq 2\pi$.

The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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Exercise 2 — markscheme

Paper 1 style · No calculator

2 4 marks SL 3.8

●●○ Typical

Solve $2\cos(2x) = 1$, for $0 \leq x \leq 2\pi$.

MARKSCHEME

$\cos 2x = \frac{1}{2},\ 0 \leq 2x \leq 4\pi$ — M1

$2x = \frac{\pi}{3}, \frac{5\pi}{3}, \frac{7\pi}{3}, \frac{11\pi}{3}$ — A1

$x = \frac{\pi}{6}, \frac{5\pi}{6}$ — A1

$x = \frac{7\pi}{6}, \frac{11\pi}{6}$ — A1

Total 4 marks

Note The interval for $2x$.