# Exercise 1

Paper 1 style · No calculator

## 1 5 marks SL 3.8 ●○○ Routine

This question is about solving equations for $0 \leq x \leq 2\pi$.

**(a)** Solve $2\cos x = -1$. **[3]**

**(b)** Solve $\tan x = \sqrt{3}$. **[2]**

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.
© 2026 Hence

# Exercise 1 — markscheme

Paper 1 style · No calculator

## 1 5 marks SL 3.8 ●○○ Routine

This question is about solving equations for $0 \leq x \leq 2\pi$.

**(a)** Solve $2\cos x = -1$. **[3]**

**(b)** Solve $\tan x = \sqrt{3}$. **[2]**

**MARKSCHEME (a)**

$\cos x = -\frac{1}{2}$ **(M1)**

$x = \frac{2\pi}{3}$ **A1**

$x = \frac{4\pi}{3}$ **A1**

Total 3 marks

**Note** $2\pi - \frac{2\pi}{3}$.

**MARKSCHEME (b)**

$x = \frac{\pi}{3}$ **A1**

$x = \frac{4\pi}{3}$ **A1**

Total 2 marks

**Note** Add the period $\pi$.