

Marks are indicated in brackets after each question number

2013 Paper 1 Question 15, (2)

Solve $\tan\left(\frac{x}{2}\right) = -1$ for $0 \leq x < 2\pi$.

2013 Paper 2 Question 8, (6)

Solve algebraically the equation

$$\sin 2x = 2 \cos^2 x \quad \text{for } 0 \leq x < 2\pi$$

2014 Paper 2 Question 6, (5)

Solve the equation

$$\sin x - 2 \cos 2x = 1 \quad \text{for } 0 \leq x < 2\pi.$$

2017 Paper 2 Question 6, (5)

Solve $5 \sin x - 4 = 2 \cos 2x$ for $0 \leq x < 2\pi$.

2018 Paper 2 Question 6, (3)

Functions, f and g , are given by $f(x) = 3 + \cos x$ and $g(x) = 2x$, $x \in \mathbb{R}$.

(a) Find expressions for

(i) $f(g(x))$ and

(ii) $g(f(x))$.

(b) Determine the value(s) of x for which $f(g(x)) = g(f(x))$ where $0 \leq x < 2\pi$.

2019 Paper 1 Question 15, (4) (1)

- (a) Solve the equation $\sin 2x^\circ + 6 \cos x^\circ = 0$ for $0 \leq x < 360$.
- (b) Hence solve $\sin 4x^\circ + 6 \cos 2x^\circ = 0$ for $0 \leq x < 360$.