FURTHER SOLUTION OF TRIGONOMETRIC EQUATIONS

1 Solve for $0 \leq x \leq 2\pi$:

(a) $\sin(2x) = 0.5$ **(b)** $\cos(3x) = 1$ **(c)** $\tan(2x) = 1$

2 Solve for $-\pi \leq x \leq \pi$:

(a) $\tan\left(\frac{x}{2}\right) = \frac{1}{\sqrt{3}}$ **(b)** $\sin\left(\frac{x}{3}\right) = -\frac{\sqrt{3}}{2}$ **(c)** $\cos\left(\frac{x}{4}\right) = \frac{1}{\sqrt{2}}$

3 Solve, for $0 \leq x \leq 2\pi$:

(a) $2\cos\left(x - \frac{\pi}{6}\right) = 1$ **(b)** $\sqrt{2}\sin\left(x + \frac{\pi}{4}\right) = 1$ **(c)** $2\cos\left(x - \frac{\pi}{3}\right) = \sqrt{3}$

4 Solve, for $-\pi \leq x \leq \pi$:

(a) $\sqrt{2}\cos 2x = 1$ **(b)** $\cos\left(2x - \frac{\pi}{2}\right) = 1$ **(c)** $\sin\left(2x + \frac{\pi}{6}\right) = -1$

5 **(a)** Solve, for $0 \le x \le 2\pi$, $\sqrt{2}\cos\left(\frac{x}{2}+\frac{\pi}{6}\right)=1$.

(b) Solve, for $-3\pi \le x \le 3\pi$, $\tan\left(\frac{x}{3}-\frac{\pi}{6}\right)=1$.

7 Solve over the given domain

(a) $\cos x + 3 \sin x = 1 \quad for \quad 0 \leq x \leq 2\pi$

(b) $\sin 2x = 1 + \cos 2x \quad for \quad 0 \leq x \leq \pi$