

# Edexcel AS Mathematics Trigonometry

## Section 2: Trigonometric equations

### Exercise level 2

- Solve the following equations for  $0^\circ \leq x \leq 360^\circ$ .
  - $\sin 2x = 1$
  - $\cos \frac{1}{2}x = 0.5$
  - $\tan 3x = \sqrt{3}$
- Solve the following equations for  $x$  between  $0^\circ$  and  $360^\circ$ .
  - $3\sin x = 4\cos x$
  - $2\cos x = -3\sin x$
- Solve the following equations for  $\theta$  in the range from  $0^\circ$  to  $360^\circ$ .
  - $4\cos^2 \theta = 3$
  - $2\cos^2 \theta = \cos \theta$
  - $4\sin \theta \cos \theta = \sin \theta$
  - $\cos^2 \theta - \cos \theta - 2 = 0$
  - $3\sin^2 \theta + 5\cos \theta - 1 = 0$
  - $3\tan \theta - 2\cos \theta = 0$
- Solve the following equations, giving all solutions such that  $0^\circ \leq x \leq 360^\circ$ .
  - $2\sin^2 2x = \sqrt{2}\sin 2x$
  - $3\tan x = \frac{1}{\cos x}$
  - $6\sin^2 x - 7\sin x = -2$
  - $3\tan 2x = \frac{1}{\tan 2x}$