

## Trigonometric Equations

### Type 2

1. Solve the following equations.

(a)  $2\cos 2x - 1 = 0$

$0 \leq x \leq 360$

(b)  $\sqrt{2} \sin 2x + 1 = 0$

$0 \leq x \leq 2\pi$

(c)  $4\tan 2x + 9 = 1$

$0 \leq x \leq 360$

(d)  $7\sin 2x - 4 = 1$

$0 \leq x \leq 2\pi$

(e)  $6\tan 3x + 2 = 8$

$0 \leq x \leq 180$

(f)  $4\sqrt{3} + 8\cos 3x = 0$

$0 \leq x \leq \pi$

(g)  $5\tan 2x + 7 = 1$

$0 \leq x \leq 2\pi$

(h)  $2\cos (2x - 30) + \sqrt{2} = 0$

$0 \leq x \leq 2\pi$

(i)  $4\cos (2x + 60) - 2 = 1$

$0 \leq x \leq 360$

(j)  $3\sin (3x - 75) + 4 = 2$

$0 \leq x \leq 360$

(k)  $6\sin(2x - \frac{2\pi}{3}) + 3 = 0$

$0 \leq x \leq 2\pi$

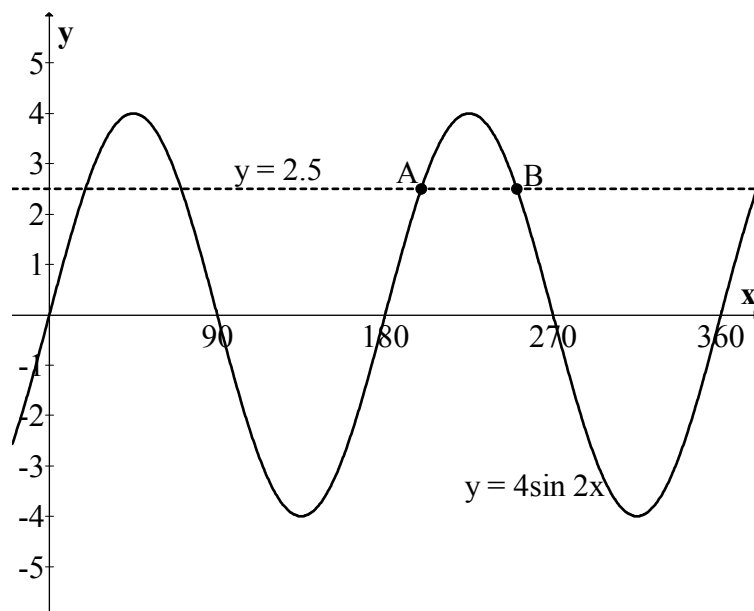
(l)  $3 + 5\tan (2x + \frac{\pi}{2}) = 8$

$0 \leq x \leq 2\pi$

2. The diagram opposite shows part of the graph of  $y = 4 \sin 2x$ .

The line  $y = 2.5$  is also drawn on the graph.

Find the x-coordinates of A and B.



3. The diagram shows part of the graph of  $y = 5\cos(2x - 45)$ .

The line  $y = -2$  is also shown on the graph.

Find the coordinates of the 4 points of intersection shown.

