

4 Solve each of the following equations for $0^\circ \leq \theta \leq 180^\circ$, giving your answers correct to one decimal place.

a) $\sin 7\theta + \sin 2\theta = 0$

b) $\cos 4\theta - \cos \theta = 0$

c) $\sin 6\theta + \sin 3\theta = 0$

d) $\cos 4\theta + \cos 2\theta = 0$

e) $\sin 7\theta = \sin 3\theta$

f) $\sin \theta + \sin 4\theta = 0$

g) $\cos(\theta + 10^\circ) + \cos(\theta + 30^\circ) = 0$

5 Solve each of the following equations for $0^\circ \leq \theta \leq 180^\circ$, giving your answers correct to one decimal place.

a) $\sin 4\theta + \sin 2\theta = \cos \theta$

b) $\cos 5\theta + \cos 3\theta = \cos 4\theta$

c) $\cos 5\theta - \cos \theta = \sin 2\theta$

d) $\sin \theta - \sin 4\theta + \sin 7\theta = 0$

e) $\sin 2\theta - \sin 5\theta + \sin 8\theta = 0$

f) $\sin 2\theta + \sin 10\theta + \cos 4\theta = 0$

g) $\sin 3\theta - \sin 2\theta = \sin 6\theta + \sin \theta$

h) $\cos 5\theta + \cos 4\theta = \sin 5\theta + \sin 4\theta$

4 c) $0^\circ, 40^\circ, 80^\circ, 120^\circ, 160^\circ, 60^\circ, 180^\circ$ d) $30^\circ, 90^\circ, 150^\circ$ e) $0^\circ, 90^\circ, 180^\circ, 18^\circ, 54^\circ, 126^\circ, 162^\circ$ f) $0^\circ, 72^\circ, 144^\circ, 60^\circ, 180^\circ$ g) 70°

5 a) $90^\circ, 10^\circ, 50^\circ, 130^\circ, 170^\circ$ b) $22\frac{1}{2}^\circ, 67\frac{1}{2}^\circ, 112\frac{1}{2}^\circ, 157\frac{1}{2}^\circ, 60^\circ$ c) $0^\circ, 90^\circ, 180^\circ, 70^\circ, 110^\circ$ d) $0^\circ, 45^\circ, 90^\circ, 135^\circ, 180^\circ, 20^\circ, 100^\circ, 140^\circ$

5 e) $0^\circ, 36^\circ, 72^\circ, 108^\circ, 144^\circ, 180^\circ, 20^\circ, 100^\circ, 140^\circ$ f) $22\frac{1}{2}^\circ, 67\frac{1}{2}^\circ, 112\frac{1}{2}^\circ, 157\frac{1}{2}^\circ, 35^\circ, 55^\circ, 95^\circ, 115^\circ, 155^\circ, 175^\circ$

5 g) $36^\circ, 108^\circ, 180^\circ, 45^\circ, 135^\circ, 0^\circ, 120^\circ$ h) $180^\circ, 10^\circ, 50^\circ, 90^\circ, 130^\circ, 170^\circ$