

Maths Rules

Year 1 Solving Trigonometric Equations

Section A

1. Solve the equation $\sin(\theta) = \frac{1}{2}$ for $0 \leq \theta \leq 360^\circ$.
2. Solve the equation $\cos(2\theta) = \frac{\sqrt{3}}{2}$ for $-180 \leq \theta \leq 180^\circ$.
3. Solve the equation $\tan(\theta + 30^\circ) = 1$ for $-180 \leq \theta \leq 540^\circ$.
4. Solve the equation $\sin^2\left(\frac{x}{5}\right) = 0.2$ for $-540 \leq \theta \leq 540^\circ$. Round your answers to 2 decimal places.
5. Solve the equation $\tan^3(\theta - 40^\circ) = -2$ for $-270 \leq \theta \leq 360^\circ$. Round your answers to 2 decimal places.

Section B

1. Solve the equation $2\cos^2(3\theta - 30^\circ) = 1$ for $-180 \leq \theta \leq 270^\circ$.
2. Solve the equation $1 - 4\sin^3(2\theta + 5^\circ) = 0$ for $-360 \leq \theta \leq 90^\circ$. Round your answers to 3 decimal places.
3. Solve the equation $2\cos^2(4x - 25^\circ) + \cos(4x - 25^\circ) = 1$ for $-160 \leq \theta \leq 110^\circ$.