

MA1 Homework 24

1. If $\cos\theta = \frac{2}{3}$ and $0 < \theta \leq \frac{\pi}{2}$, find (a) $\sin 2\theta$ and (b) $\cos 2\theta$
2. Solve for θ in the interval $0 < x \leq 360^\circ$ to the nearest degree: $\sin^2 \theta + 2 = 4 \sin \theta$
3. The expression $4 + \cos^2 A$ is equivalent to
(A) $5 - \sec^2 A$ (B) $5 - \sin^2 A$ (C) $5 + \sin^2 A$ (D) $\frac{5}{\sec^2 A}$
4. If $\cos\theta = k$, then the value of $(\cos\theta)(\sin\theta)(\cot\theta)$ is
(A) 1 (B) k^2 (C) k (D) $\frac{1}{k}$
5. The value of $\cot\left(\arctan\left(-\frac{\sqrt{5}}{2}\right)\right)$ is which of the following?
(A) $\{ \}$ (B) $-\frac{2\sqrt{5}}{5}$ (C) $\frac{2\sqrt{5}}{5}$ (D) $\frac{\sqrt{5}}{2}$
6. If θ is a positive acute angle and $\cos\theta = c$, find the value of $\sin^2 2\theta$ in terms of c .