

MA1 Homework 23

1. Solve for x on the interval $0 < x \leq 2\pi$: $\sin^2 x - 4 \sin x + 3 = 0$
2. What is the exact value of $\sin \frac{\pi}{6} + \cos \pi$?
3. What is the exact numerical value of $\tan\left(-\frac{3\pi}{4}\right)$?
4. What is the exact numerical value of $\sec^2 \frac{5\pi}{4} - \tan^2 \frac{5\pi}{4}$?
5. The positive value of $\sin(\arccos x)$ equals
(A) $\sqrt{1+x^2}$ (B) $\sqrt{1-x^2}$ (C) $1+x$ (D) $1-x$
6. $\cos\left(\frac{\pi}{4} + x\right)$ is equal to
(A) $\frac{1}{2}(\cos x - \sin x)$ (B) $\frac{1}{2}(\cos x + \sin x)$
(C) $\frac{\sqrt{2}}{2}(\cos x - \sin x)$ (D) $\frac{\sqrt{2}}{2}(\cos x + \sin x)$
7. If x is a positive acute angle, then $\frac{\sin x}{\sqrt{1-\sin^2 x}}$ is equivalent to
(A) $\cos x$ (B) $\tan x$ (C) $\sec x$ (D) $\cot x$
8. The expression $\sin\left(\frac{3\pi}{2} + x\right)$ is equivalent to
(A) $\cos x$ (B) $\sin x$ (C) $-\cos x$ (D) $-\sin x$