

Test Review
Chapter 7.1-7.3

ALL PROBLEMS MUST BE DONE ON SEPARATE PAPER OTHERWISE; THE REVIEW WILL NOT BE GRADED. SHOW ALL WORK FOR CREDIT. REVIEW IS DUE ON TEST DAY.

Find the exact value of the expression.

1) $\sin^{-1}\frac{\sqrt{2}}{2}$ 2) $\cos^{-1}\frac{\sqrt{2}}{2}$ 3) $\tan^{-1}\sqrt{3}$

4) $\sin^{-1}(0)$ 5) $\tan^{-1}(0)$

Use a calculator to find the value of the expression rounded to two decimal places.

6) $\cos^{-1}(0.2)$ 7) $\tan^{-1}(0.2)$

Find the exact value of the expression. Do not use a calculator.

8) $\cos^{-1}\left(\cos\frac{4\pi}{7}\right)$ 9) $\sin^{-1}\left[\sin\left(-\frac{\pi}{4}\right)\right]$ 10) $\sin^{-1}\left(\sin\frac{7\pi}{6}\right)$

Find the exact value, if any, of the composite function. If there is no value, say it is "not defined". Do not use a calculator.

11) $\sin(\sin^{-1} 1.8)$

Find the exact value of the expression.

12) $\tan\left[\cos^{-1}\left(-\frac{1}{2}\right)\right]$ 13) $\cos\left(\tan^{-1}\left(\frac{\sqrt{3}}{3}\right)\right)$ 14) $\cot\left[\sin^{-1}\left(\frac{\sqrt{2}}{2}\right)\right]$

15) $\sin(\tan^{-1}2)$ 16) $\tan\left(\cos^{-1}\left(\frac{2}{9}\right)\right)$ 17) $\cos\left(\sin^{-1}\left(\frac{3}{5}\right)\right)$

18) $\cos\left[\sin^{-1}\left(\frac{4}{2}\right)\right]$ 19) $\sin\left[\cos^{-1}\left(\frac{4}{7}\right)\right]$ 20) $\sin^{-1}\left[\sin\left(\frac{5\pi}{4}\right)\right]$

Write the trigonometric expression as an algebraic expression in u.

21) $\cos(\sin^{-1}u)$ 22) $\sin(\tan^{-1}u)$

Solve the equation on the interval $0 \leq \theta < 2\pi$.

23) $4 \cos^2 x - 3 = 0$ 24) $1 - \sin \theta = \frac{1}{2}$ 25) $2 \cos \theta + 2\sqrt{3} = \sqrt{3}$

26) $2 \cos \theta + 1 = 0$ 27) $4 \sin^2 \theta - 3 = 0$

Use a calculator to solve the equation on the interval $0 \leq \theta < 2\pi$. Round the answer to two decimal places.

28) $\cos \theta = 0.75$ 29) $\sin \theta = 0.33$

Solve the equation. Give a general formula for all the solutions.

30) $\sin \theta = 1$

Solve the equation on the interval $0 \leq \theta < 2\pi$.

31) $\cos^2 \theta - 1 = 0$ 32) $\sin^2 \theta + \sin \theta = 0$ 33) $2 \cos^2 \theta - 3 \cos \theta + 1 = 0$

34) $2 \sin^2 \theta = 3(\cos \theta + 1)$

Use a calculator to solve the equation on the interval $0 \leq x < 2\pi$. Round the answer to one decimal place if necessary.

35) $2x - 3 \cos x = 0$ 36) $6x - 5 \sin x = 2$