Intermediate Trigonometry

Self-Test 2

Allow 20 minutes to complete this test.

1. Express the angle $265^\circ$ in radian measure.

2. Express $\frac{7\pi}{12}$ rad in terms of degrees.

3. Without using a calculator, evaluate, if possible, $\sin \frac{3\pi}{2}$ and $\cos \frac{3\pi}{2}$.

4. Without using a calculator, find the exact value of $\tan \frac{11\pi}{6}$.

5. Without using a calculator, find the exact value of $\sec \frac{3\pi}{4}$.

6. Find $t$ in the interval $0 \leq t \leq 2\pi$, where $\cos t = -1$.

7. If $\sin x = -\frac{\sqrt{3}}{2}$, find all possible values of $x$.

8. Solve the equation $\tan x = \sqrt{3}$ for all values of $x$ in the interval $0 \leq x \leq 2\pi$.

9. If $\cos x = -\frac{2}{3}$ and $\frac{\pi}{2} \leq x \leq \pi$, evaluate $\tan x$.

10. If $\csc x = -\frac{9}{4}$ and $\tan x > 0$, evaluate $\sec x$. 