

Name : _____ Date: _____

Period: _____

Precalculus –Quarter 3 Test Review#2

Chapter 5:

1. Use the fundamental trig identities to write $\sec \theta - \tan \theta \sin \theta$ in terms of $\cos \theta$.

2. Verify the identity: $\csc^2 \theta \tan^2 \theta - 1 = \tan^2 \theta$

3. Use the sum/difference formulas to find
a. $\sin 105^\circ$

b. $\tan 15^\circ$

4. Simplify: $\sin 42^\circ \cos 38^\circ - \cos 42^\circ \sin 38^\circ$

5. Use the half-angle formulas to find:

a. $\sin 22.5^\circ$

b. $\tan \frac{\pi}{12}$

6. First, find all solutions in the interval $[0, 2\pi)$. Then, give the general solution.

a. $4\sin^2 x = 1$

b. $\sin 2x = \cos x$

Answers:

Chapter 5:

1. $\cos \theta$

3a. $\frac{\sqrt{6} + \sqrt{2}}{4}$

4. $\sin 4^\circ$

5a. $\frac{\sqrt{2 - \sqrt{2}}}{2}$

6a. $x = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$

$$x = \frac{\pi}{6} + \pi n, \text{ where } n \text{ is an integer}$$

$$x = \frac{5\pi}{6} + \pi n, \text{ where } n \text{ is an integer}$$

$$\frac{1 - \sin^2 \theta}{\sin^2 \theta \cos^2 \theta} - 1$$

2. $\frac{1}{\cos^2 \theta} - 1$

$$\sec^2 \theta - 1$$

$$\tan^2 \theta$$

b. $2 - \sqrt{3}$

b. $2 - \sqrt{3}$

b. $x = \frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{6}, \frac{5\pi}{6}$

$$x = \frac{\pi}{2} + \pi n, \text{ where } n \text{ is an integer}$$

$$x = \frac{\pi}{6} + 2\pi n, \text{ where } n \text{ is an integer}$$

$$x = \frac{5\pi}{6} + 2\pi n, \text{ where } n \text{ is an integer}$$