

Precalculus
CH.5 Test Review #1

Name: _____
Date: _____ Period: _____

1. Find the exact value of the following by using the appropriate sum or difference formula.

a) $\sin 195^\circ$

b) $\cos(330^\circ - 45^\circ)$

2. Express as the sine, cosine, or tangent of a single angle:

$$\sin 140^\circ \cos 50^\circ + \cos 140^\circ \sin 50^\circ$$

3. Find the exact value of:

$$\sin(u - v) \text{ given that } \sin u = \frac{5}{13} \text{ and } \cos v = -\frac{3}{5} \text{ (} u \text{ and } v \text{ are both in Q II)}$$

4. Verify the identity:

$$\cos\left(\frac{5\pi}{4} - x\right) = -\frac{\sqrt{2}}{2}(\cos x + \sin x)$$

5. Find all solutions in the interval $[0, 2\pi)$:

$$\sin\left(x + \frac{\pi}{6}\right) - \sin\left(x - \frac{\pi}{6}\right) = \frac{1}{2}$$

6. Given $\cos u = -\frac{4}{7}$; $\pi < u < \frac{3\pi}{2}$, find the exact value of:

$$\cos 2u$$

7. Given $\tan \theta = \frac{3}{4}$; and $\sin \theta < 0$, find the exact value of:

$$\tan 2\theta$$

8. Use a half-angle formula to find the exact value of :

$$\cos 157^\circ 30'$$

9. Given $\sin u = -\frac{5}{13}$; $\frac{3\pi}{2} < u < 2\pi$, find the exact value of:

$$\cos \frac{u}{2}$$