

Honors Algebra II/Trig
Unit 8B Review

Name: _____

Given that $\cos A = \frac{4}{5}$, A terminates in Quadrant IV, $\sin B = \frac{12}{13}$, and B terminates in Quadrant I find:

1. $\cos 2A$

2. $\tan 2B$

3. $\sin(A+B)$

4. $\cos(A-B)$

For problems #5-8, prove the identity.

5. $\sin 2x = 2 \cot x \sin^2 x$

6. $\sin(x + 30^\circ) - \cos(x + 60^\circ) = \sqrt{3} \sin x$

7. $\frac{\sec^2 x - \tan^2 x + \tan x}{\sec x} = \cos x + \sin x$

8. $\frac{\sin x + \cos x}{\sin x} - \frac{\cos x - \sin x}{\cos x} = \sec x \csc x$

9. Find the exact value of $\cos 75^\circ$

10. Find the exact value of $\sin 15^\circ$.

For problems #11-13, solve the equation in the indicated domain.

11. $\sin 2x \cos x + \cos 2x \sin x = 1$ $x \in [0, 2\pi)$

12. $2 \sin x \cos x = \sqrt{2} \cos x$ $x \in [0, 2\pi)$

13. $2 \sin^2 x - \sin x = 0$ $x \in [0, 360^\circ)$