

PreAP Precalculus
Solving Review

Name: _____

Solve each equation for $[0, 2\pi)$.

1. $2\cos x = 1$

2. $3 + \tan x = 2$

3. $2\sin^2 x - \sin x - 1 = 0$

4. $1 - 3\cos x = \sin^2 x$

5. $2\cos^2 x - 1 = 0$

6. $\sin x \tan x = \sin x$

7. $\cos(3x) = 1$

8. $2\sin(2x) = \sqrt{3}$

Use a sum and difference identities to find the exact value of each expression.

9. $\sin 165^\circ$

10. $\cos \frac{\pi}{12}$

11. $\cos 80^\circ \cos 20^\circ + \sin 80^\circ \sin 20^\circ$

12. $\frac{\tan 20^\circ + \tan 25^\circ}{1 - \tan 20^\circ \tan 25^\circ}$

Write each expression in terms of a single trigonometric function.

13. $2 \sin 3x \cos 3x$

14. $2 \cos^2(5x) - 1$

15. $\cos^2 0.45 - \sin^2 0.45$

16. $6 \sin \frac{\pi}{6} \cos \frac{\pi}{6}$