NAME:_____

1. Solve this equation graphically. List the solutions in the interval from 0 to 2π.
$3\sin x = 1$

2. Solve. Find all solutions from $0°$ to $360°$. $3\cos 2x + 4\cos x = -1$

[A] $70°32', 180°, 289°28'$

[B] $70°32', 160°32', 180°, 250°32', 340°32'$

[C] $70°32', 289°32'$

[D] $0°, 70°32', 180°, 250°28'$

Solve. Find all solutions from 0 to 2π.

3. $\tan^2\theta = \frac{3}{2}\sec\theta$ [A] $\frac{\pi}{4}, \frac{7\pi}{4}$ [B] $\frac{\pi}{3}, \frac{5\pi}{3}$ [C] $\frac{\pi}{6}, \frac{11\pi}{6}$ [D] none of these

4. $\tan^2\theta = -\frac{\sqrt{3}}{6}\sec\theta$ [A] $\frac{\pi}{6}, \frac{11\pi}{6}$ [B] $\frac{5\pi}{6}, \frac{7\pi}{6}$ [C] $\frac{\pi}{3}, \frac{5\pi}{3}$ [D] none of these

5. $\tan^2\theta = \frac{\sqrt{2}}{2}\sec\theta$ [A] $\frac{5\pi}{6}, \frac{7\pi}{6}$ [B] $\frac{3\pi}{4}, \frac{5\pi}{4}$ [C] $\frac{2\pi}{3}, \frac{4\pi}{3}$ [D] none of these

6. $\tan^2\theta = -\frac{\sqrt{2}}{2}\sec\theta$ [A] $\frac{3\pi}{4}, \frac{5\pi}{4}$ [B] $\frac{\pi}{4}, \frac{7\pi}{4}$ [C] $\frac{\pi}{3}, \frac{5\pi}{3}$ [D] none of these

7. $\tan^2\theta = \frac{\sqrt{3}}{6}\sec\theta$ [A] $\frac{5\pi}{6}, \frac{7\pi}{6}$ [B] $\frac{\pi}{6}, \frac{11\pi}{6}$ [C] $\frac{2\pi}{3}, \frac{4\pi}{3}$ [D] none of these

8. $\tan^2\theta = -\frac{3}{2}\sec\theta$ [A] $\frac{5\pi}{6}, \frac{7\pi}{6}$ [B] $\frac{3\pi}{4}, \frac{5\pi}{4}$ [C] $\frac{2\pi}{3}, \frac{4\pi}{3}$ [D] none of these

9. Explain how the function $y = \sin x$ is related to the function $y = \sin^{-1} x$.

[1] 0.34 and 2.80

[2] A

[3] B

[4] B

[5] D

[6] A

[7] B

[8] C

[9] Answers may vary. Sample: the sine function maps an angle in degrees or radians to the ratio of two sides of a right triangle. The inverse sine function maps a ratio of two sides to an angle.