Practice Worksheet: Solving Trig Equations

1. Find *all* of the solutions to the equations below; provide *exact* solutions.

a. $\sin(t) = -\frac{\sqrt{2}}{2}$

b. $2\cos(x) - \sqrt{3} = 0$

2. Find the solutions on the interval $[0, 2\pi)$ for the equations below; provide *exact* solutions.

a. $\cos(t) = -\frac{1}{2}$

b. $\frac{\sin(x)}{2} - \frac{\sqrt{3}}{4} = 0$

3. Find *all* of the solutions to the equations below; provide *exact* solutions.

a. $\sin(6t) = -\frac{\sqrt{3}}{2}$

b. $5 + 4\cos(2\theta) = 1$

c. $16\cos(4x) + 11 = 3$

d. $16 - 24\sin(8t) = 4$

4. Find the solutions on the interval $[0, 2\pi)$ to following equations.

a. $5 + 4\cos(2\theta) = 1$ **b.** $4 - 6\sin(2x) = 7$ **c.** $6\sqrt{2}\cos(3\alpha) + 10 = 4$