

**7.5 & 7.6 Solving Linear & Quadratic Trigonometric Equations (Day 2)**

**Solve** each of the following trigonometric equation with the given domain. Then, write a **generalized formula** for the solution if  $x \in R$ .

1. Equations that Require Applying Identities

a)  $2 \sin x = 1 - \cos^2 x; x \in [-2\pi, 2\pi]$

b)  $\sin 2x = \cos 2x + \sin^2 x; x \in [-\pi, 3\pi]$

c)  $4 \cos 2x + 10 \sin x - 7 = 0; x \in [0, 2\pi]$

2. Equations that have  $\theta = kx, k \in I$

a)  $\sin 2x = \frac{1}{\sqrt{2}}; x \in [0, 2\pi]$

b)  $\cos\left(\frac{x}{2}\right) = \frac{\sqrt{3}}{2}; x \in [0, 6\pi]$

11. The quadratic trigonometric equation  $\cot^2 x - b \cot x + c = 0$  has the solutions  $\frac{\pi}{6}, \frac{\pi}{4}, \frac{7\pi}{6}$ , and  $\frac{5\pi}{4}$  in the interval  $0 \leq x \leq 2\pi$ . What are the values of  $b$  and  $c$ ?

**HW: Nelson Text**

**p. 427 #10, 13, 18**

**p. 436 #8-9 (every other), 10, 15**