**W5 – 5.4 Solve Linear Trigonometric Equations**
**MHF4U**

**1)** Determine approximate solutions for each equation in the interval $0 \leq x \leq 2\pi$, to the nearest hundredth of a radian.

**a)** $\sin x - \frac{1}{4} = 0$

**b)** $\cos x + 0.75 = 0$

**c)** $\tan x - 5 = 0$

**d)** $\sec x - 4 = 0$

**e)** $3\cot x + 2 = 0$

**f)** $2\csc x + 5 = 0$

**2)** Determine exact solutions for each equation in the interval $0 \leq x \leq 2\pi$.

**a)** $\sin x + \frac{\sqrt{3}}{2} = 0$

**b)** $\cos x - 0.5 = 0$

**c)** $\tan x - 1 = 0$

**d)** $\cot x + 1 = 0$

**3)** Determine approximate solutions for each equation in the interval $0 \leq x \leq 2\pi$, to the nearest hundredth of a radian.

**a)** $\sin^2 x - 0.64 = 0$

**b)** $\cos^2 x - \frac{4}{9} = 0$

**c)** $\tan^2 x - 1.44 = 0$

**d)** $\sec^2 x - 2.5 = 0$

**4)** Determine exact solutions for each equation in the interval $0 \leq x \leq 2\pi$.

**a)** $\sin^2 x - \frac{1}{4} = 0$

**b)** $\cos^2 x - \frac{3}{4} = 0$

**c)** $\tan^2 x - 3 = 0$

**d)** $3\csc^2 x - 4 = 0$

**5)** Determine solutions for each equation in the interval $0 \leq x \leq 2\pi$.

**a)** $3\sin x = \sin x + 1$

**b)** $5\cos x - \sqrt{3} = 3\cos x$

**c)** $7\sec x = 7$

**d)** $2\csc x + 17 = 15 + \csc x$