



7.5 Solving Linear Trigonometric Equations

"I can solve for the unknown angle(s) in any linear trigonometric equation.
I realize that I may need to apply previously established identities to do so.
I can apply what I have learned in unfamiliar settings."

Ex. 1: Solve: $\sin 2\theta = \frac{1}{\sqrt{2}}$, $0 \leq \theta \leq 2\pi$

Ex. 2: Solve over the interval given. State exact answers in radians.

$$\cos^2 \theta - \sin^2 \theta = \sqrt{3} \sin 2\theta, \quad 0 \leq \theta \leq 2\pi$$

Ex. 3: A pendulum swings. The displacement from centre in centimetres(d) over time in seconds (t) is given by:

$$d = -2 \cos \frac{\pi}{2} t$$

Determine the first two time values when the horizontal distance from centre is 1.3 cm, each rounded to the nearest hundredth.

