

Name: _____

Date: _____

Learning Goal 4.2

Solving first- and second-degree equations over restricted domains and all real numbers.

When solving a quadratic equation,

Example Solve $\tan^2 \theta - 5 \tan \theta + 4 = 0$ for $0 \leq \theta < 360^\circ$. Give solutions as exact values where possible. Otherwise give approximate angle measures to the nearest hundredth of a degree.

Example Solve for x in the interval $0 \leq x < 2\pi$ if $\sin^2 x - 1 = 0$. Give answers in exact values.

How would the answer change if the domain given was $0^\circ \leq \theta < 360^\circ$?

Example Solve the following second – degree trigonometric equations on the specified domain. Give exact values where possible. Otherwise give approximate measures to the nearest hundredth.

a. $\cos^2 x - \cos x = 2, \quad -2\pi \leq x < 2\pi$

b. $6 \cos^2 \theta + \cos \theta = 1, 0^\circ \leq \theta < 360^\circ$