

Subject: Mathematics

Grade: Twelfth

Standard: Reasoning and Proof from the National Council of Teachers of Mathematics Principles and Standards for School Mathematics

Key Concept: Students select and use various types of reasoning and methods of proof.

Generalization: Students practice using various types of reasoning and methods of proof.

Background:

This lesson is adapted from the book series Mathercise. Each book in this series contains a set of classroom warm-up exercises for use in a variety of classes including algebra, geometry, advanced algebra, and pre-calculus. The lesson can be used throughout the year as a way to have students regularly practice strengthening their math skills. The book suggests using the problem pages as classroom warmups. However, another use would be as weekly quizzes during the second half of the year.

Students should work individually to complete this lesson. As suggested in the books, it may be necessary at first to illustrate how to solve the types of problems. Several tips are given in each book to use for this purpose. You may need to continue to illustrate the tips for solving the problems for the Basic and Grade Level learners well into the semester.

This lesson is tiered in *content* according to *readiness*.

Tier I: ***Basic Learners***

Students in this tier are given exercises from Mathercise, Book C, ISBN #1-55953-061-8.

Tier II: ***Grade Level Learners***

Students in this tier are given exercises from Mathercise, Book D, ISBN #1-55953-062-6.

Tier III: *Advanced Learners*

Students in this tier are given exercises from Mathercise, Book E, ISBN #1-55953-063-4.

Assessment:

The problems should be graded for accuracy. The answers are supplied with the books.