

Developed fall 2014 by Jan Miller, Bay Mills Community College

#### LESSON PLAN:

Review of multiplication and factoring of polynomials using algeblocks

#### LESSON OVERVIEW:

Students are expected to have pre-existing knowledge of the fundamentals of multiplication and factoring of binomials and trinomials. This lesson is designed as a review and reinforcement of these skills.

#### LEARNER OUTCOMES:

Students will be able to:

- correctly multiply two binomials
- correctly multiply a binomial and a trinomial
- use polynomial multiplication to calculate area and perimeter
- correctly factor a binomial
- correctly factor a trinomial

#### MATERIALS:

One set of algeblocks, quadrant map (please email Sarah Gross at [sgrosse@maine.rr.com](mailto:sgrosse@maine.rr.com) for these sheets) and factor track for each team of students

Copies of lesson worksheets (please email Sarah Gross at [sgrosse@maine.rr.com](mailto:sgrosse@maine.rr.com) for these sheets)

Textbook

Calculator

#### METHODS:

Lesson One

Students will break into groups of three to four.

Students will be introduced to the Algeblocks. The various sizes, shapes and colors will be explained.

Next the quadrant mat will be introduced and the four sections explained.

Students begin with basic examples of multiplying two numbers – using the factor track and building rectangles to find the answer. Then they move on to multiplying a polynomial times a binomial and then two binomials. Lesson 5 -6 outlines an example of multiplying two binomials using Algeblocks and also provides sample examples for practice.

Students will practice these skills using problems from the textbook. When this skill has been refreshed, in their groups, students will work through problems multiplying binomials times trinomials. Instructor will be available for assistance if needed. They will be assigned approximately 20 homework problems from the text.

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Lesson Two:

Students will break into groups of three to four.

Students will discuss the definitions of perimeter and area and practice calculating each on a few simple dimension problems. They will then be given cards 15 and 16 from ETA Cuisenaire exercises to complete the questions. Additional practice problems will be distributed. Students will be assigned approximately 20 homework problems from the textbook on calculating perimeter and area.

Lesson Three:

Two days will be spent on this lesson.

Students will break into groups of three to four.

Day One:

A quick review of greatest common factor will be presented. Then using the algeblocks and Lesson 7-4, students will practice finding the GCF and removing it. Students will then move on to the concept of factoring the GCF out of a binomial. Lesson 7-5 will be distributed to provide examples and practice problems for using algeblocks to factor out the GCF. Students will further practice these skills using problems from the textbook. They will be assigned approximately 20 homework problems from the text.

Day Two:

Copies of Lesson 7-7 and Lesson 7-8 will be distributed and the patterns of factoring trinomials will be discussed. Lesson 7-6 will be distributed and students will practice factoring trinomials using the algeblocks and examples from the lesson. In addition students will practice these skills using problems from the textbook. They will be assigned approximately 20 homework problems from the text.

ASSESSMENT:

Students will be assessed through class participation, homework, and the chapter test.