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| **Stage 1 – Desired Results** |

**Established Goals (Include ACOS standards in this section)**:

* **A1.8** Use the structure of an expression to identify ways to rewrite it. [A-SSE2]

**Understandings (Students will understand that …)**:

* The different methods to factor a polynomial are factoring out GCF, guess and check, and factoring by grouping.
* The steps they should go through when factoring are to look for: GCF, difference of squares, perfect square trinomial, to factors of c whose sum equals b, and factoring by grouping.

**Essential Knowledge (Students will know …)**:

* GCF
* Guess and check
* Difference of squares
* Perfect square trinomial
* Factor by grouping

**Essential Skills (Students will be able to …)**:

* Factor a polynomial using more than one method.
* Simplify factored polynomials completely.
* Determine whether polynomials are factored completely.

**Essential Question(s)**:

* Why is factoring a polynomial necessary?
  + If you are maximizing the area of something, it is important to know how to factor.
* Is one method better than another method when applying factoring to real life situations?
  + No, any method of factoring is acceptable.

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| **Stage 2 – Assessment Evidence** |

**Performance Task(s)**:

* None

**Other Evidence**:

* None

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| **Stage 3 – Learning Plan** |

**Materials needed for the lesson**:

(Other than pencil/pen, all materials will be provided for the students by the teacher.)

* Pencil/pen
* Paper
* Elmo
* PowerPoint

**Bell ringer (if one is used)**:

* Students will answer four questions to prepare them for the lesson. The first two questions ask them to factor two trinomials, x2 + 5x + 6, 2x2 – 6x + 4. The third question asks the students to factor a perfect square trinomial, 4x2 + 12x + 9. The fourth question asks the students to factor a polynomial using difference of squares, x2 – 16. (8 min)

**Review of relevant, previously learned information**:

* The review of relevant information will be covered in the bell ringer. The students should have already solved factoring problems, perfect square trinomials, and polynomials using the differences of squares. These concepts reviewed in the bell ringer will be used in the lesson.

**Introductory Activity**:

* None

**Body of the lesson**:

* Lecture over choosing a factoring method. The teacher will explain the different methods of factoring. The teacher will explain to students that there are steps they can go through when factoring a polynomial. (25 min)
  + When students are shown how to factor, the teacher will show multiple methods one can use to factor a trinomial to ensure understanding. Students will be given multiple example problems that involve choosing a factoring method. The teacher will solve an example with the class before having students try an example on their own. The teacher will pose questions throughout the lesson to get students thinking about more complex problems they will see in future sections.
  + No accommodations are needed for students. (No SPE, ESL, gifted students in the class.)
  + The lesson will incorporate multiple methods for solving problems. For example, the students will be reminded of all of the different methods they can use to factor a polynomial, and then they can choose which method they like the best.

**Preview of the next lesson**:

* Students will be shown the graph of one of the trinomials they have factored. The teacher will ask the students why they think the graph looks the way it does. After hearing a few ideas, the teacher will tell the students that in the next lesson (after the chapter test), they will learn how to graph these polynomials, called quadratics. (5 min)

**Related out of class assignment**:

* Homework problems

**Other class announcements or information**:

* The teacher will tell the students that they will be having a test review the next class meeting, and the following class meeting they will have their chapter test.