**THINK TAC TOE Activities**

**Polynomial Division and the Factor & Remainder Theorems**

**Georgia Standards Of Excellence for Algebra 2:**

**MGSE9-12.A.APR.2 Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).**

**MGSE9-12.A.SSE.2 Use the structure of an expression to rewrite it in different equivalent forms. For example, see x 4 – y 4 as (x 2 ) 2 - (y 2 ) 2 , thus recognizing it as a difference of squares that can be factored as (x 2 – y 2 ) (x 2 + y 2 ).**

**ISTE Student Standards**

1. **Empowered Learner**

Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences. Students:

* 1. articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
  2. build networks and customize their learning environments in ways that support the learning process.
  3. use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.
  4. understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.

1. **Knowledge Constructor**

Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others. Students:

* 1. plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
  2. evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.
  3. curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
  4. build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

1. Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. Students:

* 1. know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
  2. select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
  3. develop, test and refine prototypes as part of a cyclical design process.
  4. exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

1. Creative Communicator

Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals. Students:

* 1. choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
  2. create original works or responsibly repurpose or remix digital resources into new creations.
  3. communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
  4. publish or present content that customizes the message and medium for their intended audiences.