

## **Common Core Mathematics II**

Mathematics II extends students' geometric knowledge and introduces them to quadratic expressions, equations and functions, exploring the relationship between these and their linear and exponential counterparts. Students learn through discovery and application, developing the skills they need to break down complex challenges and demonstrate their knowledge in new situations. Course topics include extending the number system; quadratic functions and modeling; expressions and equations; applications of probability; similarity, right triangle trigonometry, and proof; and circles with and without coordinates. This course supports all students as they simultaneously develop computational fluency, deepen conceptual understanding, and apply Common Core's 8 mathematical practice skills. Students begin each lesson by discovering new concepts through guided instruction, and then confirm their understanding in an interactive, feedback-rich environment. Modeling activities equip students to use tools and analyze a variety of real-world scenarios and mathematical ideas. Journaling activities allow students to reason abstractly and quantitatively, construct arguments, critique reasoning, and communicate precisely. Performance tasks prepare students to synthesize their knowledge in novel, real-world scenarios that require the student to make sense of multifaceted problems and persevere in solving them. Throughout the course students are evaluated through a diversity of assessments specifically designed to prepare them for the content, form, and depth of the Common Core assessments. This course is aligned with the Common Core State Standards for Mathematics.