Unit 1 Conditional Probability

Students simulate and collect data, use tree diagrams, two-way tables, and Venn diagrams to represent probability, and investigate the differences between independent and dependent events. Along the way, students examine how probability is used to make decisions in real-world contexts.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 2 Non-Linear Relationships

Students are introduced to quadratic relationships and compare them to linear and exponential relationships. They also explore piecewise-defined and absolute value functions.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 3 Quadratic Relationships

Students analyze graphs, tables, and equations to identify and interpret key features of quadratic functions. They also solve quadratic equations using reasoning, factoring, the zero-product property, and graphing.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 4 Quadratic Functions and Complex Numbers

Students convert quadratic expressions between factored, standard, and vertex forms to support them in solving equations and identifying key features of functions. They also solve quadratic equations by completing the square and using the quadratic formula. Students discover the imaginary unit i and write equivalent expressions involving adding, subtracting, and multiplying complex numbers.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 5 Proving Congruence

Students use rigid transformations and logical reasoning to prove congruent relationships in angles and quadrilaterals.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 6 Similarity

Students build on their middle school understanding of dilations to prove when two figures are similar. Students investigate whether two figures are similar and use similarity to determine side lengths and angle measurements. They use the coordinate plane to explore and extend their understanding of symmetry and transformations.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 7 Right Triangles

Students explore relationships between the sides and angles of right triangles to build an understanding of ratios, leading to the naming of sine, cosine, and tangent as trigonometric ratios. They use similarity to estimate angles and sides using trigonometric ratios before they use the calculator to support reasoning quantitatively.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 8 Circles

Students deepen their understanding of circles through exploring angle relationships, proportions of a circle (arcs and sectors), and inscribing and circumscribing with circles. They explore how to describe circles and parabolas on the coordinate plane.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.

Unit 9 Solid Geometry

Students make sense of relationships between two-dimensional figures and three-dimensional solids by creating nets. They justify which formulas can be used to calculate volumes of prisms, cylinders, pyramids, and cones.

*This course is in development, so the goals and number of lessons per sub-unit may change slightly.