

Title Algebra 2 / Geometry

| Unit: | | Solving Linear Equations and Inequalities | | | | | |
|---|--|--|---|--|---|---|--|
| Big Ideas: | | Solve linear equations and inequalities. Solving compound and absolute value inequalities. | | | | | |
| Unit Essential Questions: | | How do the differences between linear equations and inequalities differ? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Solving Multi-Step Equations 4 Days | CC.2.2.8.B.3 CC.2.2.HS.D.8 CC.2.2.HS.D.9 | - Variable - Order of Operations (PEMDAS) | What is the order of operations? | Solve equations involving the distributive property and / or combining like terms. | DeltaMath Practice Open-Middle | Notes Practice problems Scientific calculator | Ticket-out DeltaMath Practice |
| Verbal Model to Equation 3 Days | CC.2.2.8.B.3 CC.2.2.HS.D.8 CC.2.2.HS.D.9 | - Biweekly - Weekly - Semimonthly - Time-and-a-half - Annually - Bimonthly | What does it mean to get paid biweekly vs semimonthly? What does time-and-a-half mean? | Write and solve one-variable equations from word problems. | Desmos Solving Multi-Step Equations Practice | Notes Practice problems Scientific calculator | Ticket-out Desmos Practice 1.1 – 1.2 Quiz |
| One-Variable Inequalities 3 Days | CC.2.2.HS.D.7 | - Greater than - Less than - Greater than or equal to - Less than or equal to | What is the difference between less than / less than or equal to? How is solving an inequality similar to solving an equation? How is it different? | Solve one-variable inequalities and apply inequalities to budgeting concepts. | DeltaMath Practice Open-Middle Desmos Writing Inequalities from Word Problems | Notes Practice problems Scientific calculator | Ticket-out DeltaMath Desmos |
| Compound Inequalities 3 Days | CC.2.2.HS.D.10 | - Compound inequalities | | Solve compound inequalities and graph their solution sets. | Around the Room Practice | Notes Practice problems Scientific calculator | Ticket-out 1.3 – 1.4 Quiz |
| Absolute Value Inequalities 4 days | CC.2.2.HS.D.10 | - Absolute Value | What is absolute value? | | Linear inequality bingo | Notes Practice problems Scientific calculator | |
| Chapter 1 Review 2 Days | (All of the above) | (All of the above) | (All of the above) | Review | Chapter review packet | Chapter 1 review packet Scientific calculator | Review Packet |
| Chapter 1 Test 1 Day | (All of the above) | (All of the above) | (All of the above) | Chapter 1 test | Chapter test | Chapter 1 test Scientific calculator | Test |

20 Days

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| Unit: | | Two-Variable Equations and Inequalities | | | | | |
|---|----------------------------------|---|--|--|--|---|--|
| Big Ideas: | | Solving systems of equations using graphing, elimination, and substitution. Solving systems of linear equalities. | | | | | |
| Unit Essential Questions: | | How do the differences between systems of linear equations and linear inequalities differ? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Graphing Linear Equations 2 Days | CC.2.2.HS. C.2 CC.2.2.HS.D.10 | - Point-slope form - Slope-intercept form | What is the slope of a line? What is the y-intercept of a line? What is the difference between point-slope and slope-intercept form? | Graph Linear Equations | | Notes Practice problems Scientific calculator | Homework |
| Graphing Systems of Equations 4 Days | CC.2.2.HS.D.10 | - Intersections - Coordinate point - x-y axis | What is a system of equations? What does the intersection of two lines represent? | Solve systems of equations by graphing. Determine if a system has zero, one, or infinite solutions by graphing. | | Notes Practice problems Scientific calculator | Homework 2.1 – 2.2 Quiz |
| Systems of Equations by Substitution 2 Days | CC.2.2.HS.D.10 | - Substitution - Variables | Why would substitution be used instead of graphing? | Solve systems of equations by the substitution method. Organize data to solve problems. | | Notes Practice problems Scientific calculator | Homework |
| Systems of Equations by Elimination (Add & Subtract) 1 Days | CC.2.2.HS.D.10 | - Elimination - Inverse - Standard form | Why would elimination be used instead of substitution or graphing? | Solve systems of equations using the addition and subtraction elimination method. | Building tables and chairs with Lego blocks and maximizing profit. | Funky furniture worksheet Lego blocks | Homework |
| Systems of Equations by Elimination (Multiply & Add) 3 Days | CC.2.2.HS.D.10 | - Elimination - Inverse - Distribution - Standard Form | How elimination be used if A or B are not opposite signs? | Solve systems of equations using multiplication and addition elimination method. | | Notes Practice problems Scientific calculator Color by number sheets Art supplies | Homework 2.3 - 2.4 Quiz Systems Task Cards |
| Systems of Inequalities 2 Days | | | | Represent systems of inequalities graphically. | | Notes Practice problems Desmos | Ticket-out |

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|--|----------------|--|--|--|--|--|--|
| Verbal Models of Systems of Inequalities 2 days | CC.2.2.HS.D.10 | | | | | | |
| Chapter 2 Review 1 day | | | | | | | |
| Chapter 2 Test 1 day | | | | | | | |

18 Days/38 days total

| Unit: | | Polynomials | | | | | |
|---|--|---|---|--|-------------------------|---|----------------------|
| Big Ideas: | | Simplifying and classifying polynomials by length and degree with various techniques. | | | | | |
| Unit Essential Questions: | | How can polynomials of different lengths and degrees be simplified and then classified? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Polynomials and Power Rules 3 Days | CC.2.2.8.B.1 CC.2.2.HS.D.2 CC.2.2.HS.D.3 | - Exponent - Power rules - Simplify | What is a polynomial? What are the power rules? | Find the degree of a polynomial. Arrange the terms of a polynomial so that the powers are in a descending or ascending order. | | Notes Practice problems Scientific calculator | Homework 3.1 Quiz |
| Add and Subtract Polynomials 2 Days | CC.2.2.8.B.1 CC.2.2.HS.D.2 CC.2.2.HS.D.3 | - Like terms | What is a simplified polynomial? What are like terms? | Add and subtract polynomials. | | Notes Practice problems Scientific calculator | Homework |
| Multiply Polynomials 3 Days | CC.2.2.HS.D.2 CC.2.2.HS.D.3 CC.2.2.7.B.3 | - Distributive property | What is the FOIL method? How can polynomials be multiplied with the distributive property? | Use the FOIL method to multiply two binomials. Multiply any two polynomials using the distributive property. | | Notes Practice problems Scientific calculator | Homework |

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| Polynomials 3 Days | CC.2.2.HS.D.1 | <ul style="list-style-type: none"> - Monomial - Binomial - Trinomial - Polynomial - Degree | <p>What is the degree of a polynomial? How is a polynomial classified by its length?</p> | <p>Find the degree of a polynomial. Arrange the terms of a polynomial so that the powers are in a descending or ascending order. Add, subtract, and multiply polynomials.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework 3.2 – 3.4 Quiz</p> |
| Factors and Greatest Common Factor 2 Days | CC.2.1.6.E.3 CC.2.2.HS.D.3 | <ul style="list-style-type: none"> - GCF | <p>What is the GCF of a set of monomials?</p> | <p>Find the prime factorization of integers. Find the GCF for sets of monomials.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework</p> |
| Factoring with the Distributive Property 3 Days | CC.2.1.6.E.3 CC.2.2.HS.D.3 | <ul style="list-style-type: none"> - GCF - Polynomial - Distributive property - Grouping | <p>When should polynomials be factored with GCF? How can polynomials be factored by grouping?</p> | <p>Use the GCF and the distributive property to factor polynomials. Use the grouping technique to factor polynomials with four or more terms.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework 3.5 – 3.6</p> |
| Factoring Trinomials 5 Days | CC.2.2.HS.D.2 CC.2.2.HS.D.3 | <ul style="list-style-type: none"> - X method - Coefficient | <p>When should a GCF be factored out of a trinomial? How should trinomials with an $a > 1$ be factored?</p> | <p>Factor quadratic trinomials.</p> | <p>X-factor puzzles</p> | <p>Notes Practice problems Scientific calculator X-factor puzzles sheet</p> | <p>Homework</p> |
| Factoring Difference of Squares 2 Day | CC.2.2.HS.D.2 CC.2.2.HS.D.3 | <ul style="list-style-type: none"> - Difference of squares. | <p>What is the difference of squares? How can a difference of squares trinomial be identified?</p> | <p>Identify and factor binomials that are the difference of squares.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework</p> |

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| Perfect Squares and Factoring 3 Days | CC.2.2.HS.D.2 CC.2.2.HS.D.3 | - Perfect Squares | What is a perfect square trinomial? How can a perfect square trinomial be identified? | Identify and factor perfect square trinomials. | | Notes Practice problems Scientific calculator | Homework 3.7 – 3.9 Quiz |
| Polynomial Project 6 Days | (All of the above) | (All of the above) | (All of the above) | Apply polynomials to the real world. | Choose your own adventure project sheet | Choose your own adventure worksheet Scientific calculator Art supplies Blank paper Project examples | Polynomial choose your own adventure project. |

32 days

| Unit: | | Quadratic Equations and Radicals | | | | | |
|---|--------------------------------|--|--|---|-------------------------|---|----------------------|
| Big Ideas: | | Rationalizing the denominator of a radical. Combining like terms and simplifying radicals. | | | | | |
| Unit Essential Questions: | | How can radical solutions be simplified? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Solving Quadratic Equations by the Quadratic Formula 3 Days | CC.2.2.HS.D.2 CC.2.2.HS.D.9 | - Quadratic equations - Quadratic formula | When should the quadratic formula be used? What do the solutions to a quadratic equation represent? | Solve quadratic equations by using the quadratic formula. | | Notes Practice problems | Homework 4.1 Quiz |
| Simplifying Radical Expressions 3 Days | CC.2.2.8.B.1 CC.2.2.HS.D.3 | - Radical - Radical expression | When should radical expressions be simplified? | Simplify square roots. Simplify radical expressions. | | Notes Practice problems Scientific calculator | Homework |
| Add and Subtract Radicals 3 Days | CC.2.2.8.B.1 CC.2.2.HS.D.3 | - Radicals | How should radical expressions be added and subtracted? | Simplify radical expressions. | | Notes Practice problems Scientific calculator | Homework |

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| Multiply Radicals 2 Days | CC.2.2.8.B.1 CC.2.2.HS.D.3 | - Radicals | What is the product of two radical expressions? | Simplify radical expressions. | | Notes Practice problems Scientific calculator | Homework 4.2 – 4.4 Quiz |
| Rationalize Radicals 3 Days | CC.2.2.8.B.1 CC.2.2.HS.D.3 | - Rationalize - Simplify | How should radicals in the denominator be simplified? | Simplify radical expressions. | | Notes Practice problems Scientific calculator | Homework 4.5 Quiz |
| Simplifying Radicals 3 Days | CC.2.2.8.B.1 CC.2.2.HS.D.3 | - Radicals | What is the simplest form of a radical expression? | Simplify radical expressions. | | Notes Practice problems Scientific calculator | Homework 4.6 Quiz |
| Midterm Review 4 Days | (All previous chapters) | (All previous chapters) | (All previous chapters) | Review | Midterm review | Midterm review packet Scientific calculator | Midterm Review Packet |
| Midterm 1 Day | (All previous chapters) | (All previous chapters) | (All previous chapters) | Algebra 2 midterm | Midterm exam | Midterm Scientific calculator Algebra Keystone formula sheet | Algebra 2 Midterm |

85 Days

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|---|---|--|--|---|--------------------------------|---|----------------------------|
| Unit: | | Perimeter and Area | | | | | |
| Big Ideas: | | Calculate the perimeter and area of basic polygons | | | | | |
| Unit Essential Questions: | | When would perimeter or area be used? How can area be calculated for different shapes? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Area 4 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 | - Area - Square - Rectangle - Triangle - Circle | What is area? How can area be calculated for polygons and circles? | Calculate area for squares, rectangles, triangles, and circles. | | Notes Practice problems Scientific calculator | Homework |
| Mixed Area and Perimeter 4 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 | - Polygon - Perimeter - Circumference | How can area be calculated for irregular polygons? How can perimeter be calculated for any polygons? How can circumference be calculated for a circle? | Solve for the area and perimeter of irregular polygons. | | Notes Practice problems Scientific calculator | Homework 5.1 – 5.2 Quiz |

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|--|--|-----------------------------------|--|---|---|--|----------------------|
| Geometric Constructions 7 Days | | - Construction - Straight Line | How can a compass and straightedge be used to construct and create different polygons? | Create polygons using a compass and a straightedge. | Geometric constructions by hand and by computer | Constructions packet Practice problems Scientific calculator Ruler Compass | Constructions packet |
| Chapter 5 Review 1 Day | | (all of the above) | (all of the above) | Review | Chapter 5 review | Chapter 5 review packet Scientific calculator | Review Packet |
| Chapter 5 Test 1 Day | | (all of the above) | (all of the above) | Chapter 5 test | Chapter 5 test | Chapter 5 test Geometry keystone formula sheet Scientific calculator | Test |

17 Days

| Unit: | | Basics of Geometry | | | | | |
|---|--|---|--|---|-------------------------|---|----------------------|
| Big Ideas: | | Defining undefined terms. Segment and angle addition postulate. | | | | | |
| Unit Essential Questions: | | What are the basic terms of geometry? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Basics of Geometry 3 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 | - Point - Line - Plane - Collinear - Coplanar - Segment - Ray - Line segment - Angle - Congruent - Equal - Measure | What is an undefined term? What is the difference between collinear and coplanar? How does a line segment differ from a line and a ray? What is an angle? | Define undefined terms. Explain symbols and labeling of objects. Define collinear and coplanar. Define segments and rays. Apply definitions to pictured problems. Define angles, their parts, naming, and uses. Apply angle info to various problems. | | Notes Practice problems Scientific calculator | Homework 6.1 Quiz |

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| Angle Addition Postulate 2 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 | - Postulate | How can the angle addition postulate be used to solve for missing angles? | Apply the angle addition postulate. | | Notes Practice problems Scientific calculator | Homework |
| Types of Angles 3 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 | - Complementary - Supplementary - Vertical angles - Opposite rays - Perpendicular lines - Adjacent angles - Linear pair | What are the different types of angles? What types of angles are formed by perpendicular lines? | Define and apply complementary, supplementary, and adjacent angles. Define opposite rays, perpendicular lines, and vertical angles. Apply the vertical angle theorem. Apply all angle information to various problems. | | Notes Practice problems Scientific calculator | Homework 6.2 – 6.3 Quiz |
| Segment Addition Postulate 1 Day | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 | - Segment | How can the segment addition postulate be used to solve for missing segment lengths? | Use and apply the segment addition postulate. | | Notes Practice problems Scientific calculator | Homework |
| Chapter 6 Review | (all of the above) | (all of the above) | (all of the above) | Review | Chapter 6 review | Chapter 6 review packet Scientific calculator | Review Packet |
| Chapter 6 Test | (all of the above) | (all of the above) | (all of the above) | Chapter 6 Test | Chapter 6 test | Chapter 6 test Scientific calculator Geometry keystone formula sheet | Test |

11 Days

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|--|--|---|---|--|--------------------------------|---|--------------------|
| Unit: | Lines | | | | | | |
| Big Ideas: | Relation between angles formed by parallel lines cut by a transversal. Determine the slopes of parallel and perpendicular lines. | | | | | | |
| Unit Essential Questions: | What are the relations of angles formed by parallel lines cut by a transversal? What is the relationship between parallel and perpendicular lines' slopes? | | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Intersecting Lines 2 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 | - Transversal - Lines - Supplementary | What is the relation between angles when lines are cut by a transversal? | Identify angles formed by two lines and a transversal. State the relationship of the angles. | | Notes Practice problems Scientific calculator | Homework |
| Angles of Intersecting Lines 1 Day | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 | - Corresponding, alternate interior / exterior, same side interior / exterior | Which of the angle relationships are congruent and which are supplementary? | Identify angles formed by two lines and a transversal. State the relationship of the angles. | | Notes Practice problems Scientific calculator | Homework |

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|--|---|--|---|---|------------------|--|----------------------------|
| Angles of Parallel Lines 2 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 | - Congruent angles - Supplementary angles | How are the relations between angles helpful in determining parallel and perpendicular? | Prove that lines are parallel given angle measures. | | Notes Practice problems Scientific calculator | Homework 7.1 – 7.3 Quiz |
| Distance and Midpoint 2 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.11 | - Distance - Midpoint - Coordinate point | How can the distance and midpoint be found for coordinate points? | Calculate the distance between two points. Find the midpoint between two coordinate points. | | Notes Practice problems Scientific calculator | Homework 7.4 Quiz |
| Slope 1 Day | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.11 | - Slope - Parallel lines - Perpendicular lines - Reciprocal | What is the relation between the slope of parallel and perpendicular lines? | Calculate the slope of a line. Write the equation of a line. Decide when lines are parallel or perpendicular. | | Notes Practice problems Scientific calculator | Homework 7.5 Quiz |
| Linear Equations 1 Day | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.11 | - Slope-intercept form - Point-slope form | What is the slope of lines in various forms? | Write equations of lines from given information. | | Notes Practice problems Scientific calculator | Homework |
| Parallel and Perpendicular Lines 1 Day | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.11 | - Standard form | Given two points, what is the equation of the line through both points? | Write equations of lines from given information. | | Notes Practice problems Scientific calculator | Homework 7.6 – 7.7 Quiz |
| Chapter 7 Review | | (all of the above) | (all of the above) | Review | Chapter 7 review | Chapter 7 review packet Scientific calculator | Review Packet |
| Chapter 7 Test | | (all of the above) | (all of the above) | Chapter 7 Test | Chapter 7 test | Chapter 7 test Scientific calculator Geometry Keystone formula sheet | Test |

13 Days

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|------------------------------------|--|--|--|--|--------------------------------------|---|--------------------|
| Unit: | Polygons | | | | | | |
| Big Ideas: | Classify polygons by the number of sides. Proving quadrilaterals as special parallelograms or trapezoids. | | | | | | |
| Unit Essential Questions: | What is a polygon? What are congruent triangles? How can properties of triangles and angles formed by parallel lines be used to prove different types of quadrilaterals? | | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Classify Triangles 1 Day | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 | - Exterior angle - Remote interior angles | How can triangles be classified by sides and angles? | Classify triangles. Use triangle sum to find missing angles. Use the exterior angle theorem. | Classifying triangles group activity | Notes Practice problems Scientific calculator | Homework |

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| <p>Congruent Triangles</p> <p>6 Days</p> | <p>CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4</p> | <ul style="list-style-type: none"> - Corresponding - Included side - Included angle - Congruent | <p>What are congruent triangles? What are corresponding parts?</p> | <p>Apply congruency to triangles. Prove triangles are congruent using SSS, SAS, ASA, AAS, and HL. Proving triangles congruent.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework 8.1 – 8.2 Quiz</p> |
| <p>Parallelograms</p> <p>2 Days</p> | <p>CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14</p> | <ul style="list-style-type: none"> - Parallelogram - Opposite sides - Opposite angles | <p>What is a parallelogram?</p> | <p>Apply properties of parallelograms.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework</p> |
| <p>Trapezoids</p> <p>1 Day</p> | <p>CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14</p> | <ul style="list-style-type: none"> - Trapezoid - Median | <p>What is a trapezoid? How can the median of a trapezoid be calculated?</p> | <p>Use properties of trapezoids. Find the medians of trapezoids.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework</p> |
| <p>Special Quadrilaterals</p> <p>2 Days</p> | <p>CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14</p> | <ul style="list-style-type: none"> - Quadrilateral - Isosceles trapezoid - Rhombus - Square - Rectangle | <p>What are the special parallelograms? What is an isosceles trapezoid?</p> | <p>Apply properties of special quadrilaterals.</p> | | <p>Notes Practice problems Scientific calculator</p> | <p>Homework 8.3 – 8.5 Quiz</p> |
| <p>Polygons</p> <p>2 Days</p> | <p>CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14</p> | <ul style="list-style-type: none"> - Polygon - Sides | <p>What are the most common regular polygons?</p> | <p>Identify the various polygons. Apply facts about polygons.</p> | <p>Name that polygon game</p> | <p>Notes Practice problems Scientific calculator</p> | <p>Homework 8.6 Quiz</p> |
| <p>Similar Polygons</p> <p>2 Days</p> | <p>CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14</p> | <ul style="list-style-type: none"> - Similar - Congruent - Angles - Scale factor | <p>What is scale factor? How is scale factor used with similar polygons?</p> | <p>Identify scale factor and apply to similar polygons.</p> | <p>Measuring heights of trees with shadows group activity</p> | <p>Notes Practice problems Scientific calculator Mirrors Tape measure Tree height worksheet</p> | <p>Homework Tree mirror height activity</p> |
| <p>Chapter 8 Review</p> | <p>(All of the above)</p> | <p>(all of the above)</p> | <p>(all of the above)</p> | <p>Review</p> | <p>Chapter 8 review</p> | <p>Chapter 8 review packet Scientific calculator</p> | <p>Review Packet</p> |

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| Chapter 8 Test | (All of the above) | (all of the above) | (all of the above) | Chapter 8 Test | Chapter 8 test | Chapter 8 test Scientific calculator Geometry Keystone formula sheet | Test |
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19 Days

| Unit: | | Circles and Logic | | | | | |
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| Big Ideas: | | Circumference, area, arcs, chords, and angles with circles. | | | | | |
| Unit Essential Questions: | | How can the arcs, areas, and chords be calculated for a circle and then applied to the real world. How can logic be used to solve any truth table? | | | | | |
| Concept & Pacing | Pa Core Standard | Key Vocabulary | Essential Questions | Competencies (skills, knowledge, abilities) | Mini-Lessons/Activities | Instructional Materials | Assessments |
| Arcs of a Circle 2 Days | CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9 | - Major arc - Minor arc - Arc - Central angle | What is the difference between major and minor arcs? | Identify major and minor arcs of a circle. Apply facts about the central angles. | | Notes Practice problems Scientific calculator | Homework 9.1 Quiz |

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| | | | What is a central angle? What is measure of a circle in degrees? | | | | |
| Chords of a Circle 1 Day | CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9 | - Chord - Circumference | What is a chord? How can a chord length be calculated? What is chord intersection? | Use the intersection of chords to find missing lengths. Apply the product rule of chord lengths. | | Notes Practice problems Scientific calculator | Homework 9.2 Quiz |
| Area and Circumference of Circles 2 Days | CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9 | - Area - Sector area - Arc length | What is the area of a circle? Where would sector area or arc length be used? | Calculate circumference, area, sector area, and arc length. | | Notes Practice problems Scientific calculator | Homework 9.3 Quiz |
| Circle Angles 2 Days | CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9 | - Inscribed | Where would inscribed circles be used in the real world? | Apply facts of inscribed circles. | | Notes Practice problems Scientific calculator | Homework 9.4 Quiz |
| Logic 8 Days | CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 | - Truth table - Converse | What is a truth value? What is a truth table? | Logic puzzles. | Logic puzzle group activity | Notes Practice problems Scientific calculator Logic puzzles | Logic puzzle worksheets |
| Surface Area 4 Days | CC.2.3.HS.A.12 CC.2.3.HS.A.13 | - Surface area - Base area - Prism - Pyramid - Square units | What is the purpose of surface area? How is surface area calculated for different figures? | Calculate surface area for different figures and polygons. Solve for a missing dimension given the surface area and other information about the figure. | | Notes Practice problems Scientific calculator | Homework |
| Volume 4 Days | CC.2.3.HS.A.12 CC.2.3.HS.A.13 | - Volume - Cubic units - Prism - Pyramid | What is the purpose of volume? How is volume calculated for different figures? | Calculate volume for different figures and polygons. Solve for a missing dimension given the surface area and other information about the figure. | Surface area and volume of classroom objects group activity | Notes Practice problems Scientific calculator | Homework 9.6 – 9.7 Quiz |
| Review for Final 4 Days | | (all geometry chapters) | (all geometry chapters) | (all geometry chapters) | Geometry review | Geometry review packet Scientific calculator Geometry keystone formula sheet | Geometry Review Packet |
| Final Exam 1 Day | | (all geometry chapters) | (all geometry chapters) | (all geometry chapters) | Geometry Exam | Geometry review packet Scientific calculator Geometry keystone formula sheet | Geometry Final |

28 Days

Title Algebra 2 / Geometry

Geometry Total: 87 Days

Total: 172 Days