Unit 1: Segments, length and area

Date	Lesson title	Topics	Extension topics
9/8	1.1 Segment addition, vocabulary	Length, number line; points, segments; inches, feet	Absolute value
9/9	1.2 Solve for length	Collinear; algebraic conventions, prior knowledge	Algebra with fractional coefficients
9/12	1.3 Geometric conventions	Lines, rays, planes, coplanar	
9/13	1.4 Midpoint and bisector	Congruence, hash marks; solve equations with variables on both sides	
9/14	1.5 Equilateral $\triangle$, isosceles $\triangle$, perimeter	Special triangles and quadrilaterals; calculate perimeter	
9/15	1.6 Review	Roundtable of peers: Terms, perimeter, modeling, algebra solving	Efficient solutions to algebra equations
9/16	1.7 Unit conversion	Inches $\rightleftarrows$ feet, inches $\rightleftarrows$ centimeters, formula sheet use	
9/16	1.7 Exit Note Quiz: Length and perimeter	Use algebra to solve simple distance problems, vocabulary and notation	Absolute value
9/19	1.8 Area	Rectangle, triangle, parallelogram area; units, solving for missing dimension	Areas with fractional lengths
9/20	1.9 Precision	Percent error formula	Confidence intervals
9/21	1.10 Rounding	Decimals, powers of ten	Sig figs
9/22	1.11 Review	Roundtable peers: Terms, area and perimeter, % error, solving algebra	
9/23	1.12 Test: Length and area	Using algebra to solve, conventions, precision and rounding	Confidence intervals, absolute value

12 Instructional days (1-12 / 159)

Application contexts:

- Classroom diagram, desk layout and dimensions (proctoring instructions reference)
- Maps: NYC streets
- Ordinal number lines: Supreme Court justices
- Curved number lines: clocks, parlimentary diagrams

Unit 2: Angles

Date	Lesson title	Topics	Extension topics
9/28	2.1 Angle measures	Terminology, notation, 90°, 180°,360°, measuring with protractor	
9/29	2.2 Angle addition	Modeling with algebra, solving	Clock problems
9/30	2.3 Special angle pairs	Adjacent, opposite, linear, complementary, supplementary	
10/3	2.4 Angle bisector	Congruence, hash marks; solving equations	Bearings
10/4	2.5 Equilateral and isosceles △s	Triangle sum, isosceles base theorems	Radian units
10/6	2.6 Review	Roundtable: Terms, protractor use, algebraic modeling, triangle situations	
10/7	2.7 Test: Angles	Using algebra to solve, conventions, precision and rounding	Bearings, radians

7 Instructional days (13-19 / 159)

Unit 3: Transversals

Date	Lesson title	Topics	Extension topics
10/11	3.1 Parallel lines	Identifying transversal angles, parallel and perpendicular definitions	
10/12	3.2 Finding angle measures	Modeling with algebra, solve	
10/13	3.3 Transversal situations	Multiple steps: angle pairs, isosceles △s	
10/14	3.4 Parallelograms	Definitions, opposite sides ≅	
10/17	3.5 Triangle sum	Deriving triangle sum	
10/18	3.6 External angles	△ external angles	
10/19	3.7 Parallelogram situations	Examples of parallelogram properties	
10/20	3.8 Review	Roundtable: Transversal naming conventions, solving for angles, parallelograms, situations	
10/21	3.9 Test: Transversals	Parallel line situations, implications for polygons	

9 Instructional days (20-28 / 159)

Unit 4: Volume and polyhedra

Date	Lesson title	Topics	Extension topics
10/24	4.1 Parallel lines	Identifying transversal angles, parallel and perpendicular definitions	
10/12	4.2 Finding angle measures	Modeling with algebra, solve	
10/13	4.3 Transversal situations	Multiple steps: angle pairs, isosceles $\triangle$s	
10/14	4.4 Parallelograms	Definitions, opposite sides $\cong$	
10/17	4.5 Triangle sum	Deriving triangle sum	
10/18	4.6 External angles	$\triangle$ external angles	
10/19	4.7 Parallelogram situations	Examples of parallelogram properties	
10/20	4.8 Review	Roundtable: Transversal naming conventions, solving for angles, parallelograms, situations	
10/21	4.9 Review	Roundtable:	
11/4	4.10 Test: Volume and polyhedra	Parallel line situations, implications for polygons	

10 Instructional days (20-38 / 159)

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Dates	Unit	Topics	Extension topics
9/8 - 9/23	1. Segments, length and area	Units, addition, bisectors, perimeter; number line, precision; Assess prior knowledge	Ratio partition, prior knowledge q
9/28 - 10/7	2. Angles	Measure, addition, bisectors, vertical, linear, supplementary, complementary	Bearings
10/11 - 10/21	3. Transversals	Isosceles $\triangle$, triangle sum, $\triangle$ external angles	Combination angl
10/24 - 11/4	4. Volume and polyhedra	Surface area, nets, prisms, density; exponents, solving for a parameter	Paper models; fu tation
11/7 - 11/18	5. Pythagorean theorem	Diagonal distance, solving for a leg, special triangles, proof	Radicals, angle proofs, 3-D distan
11/21 - 12/2	6. Analytic geometry	Distance formula, midpoint, $\tan\theta$; Linear equations, $\parallel$ and $\perp$ slopes	Point-slope formu
12/5 - 12/16 (Intensives)	7. Project	Writing investigation, e.g. density	Cumulative reviev
1/3 - 1/13	8. Congruence tranformations	Triangle standard position; graphing, quadrants	(Geogebra), congr orems, symmetry,
1/17 - 2/3 (Reg)	9. Dilation	Dilation situations, area scaling; graphing	$\triangle$ similarity theor
2/6 - 2/17	10. Similarity and proportions	Overlapping $\triangle$s, scale coefficient k, compositions; proportions, fractions	Composition chord and secant
2/27 - 3/10	11. Circles	Area, circumference, central and inscribed angles, sectors (pie charts), arc length	Segment area, ci tions; completing
3/13 - 3/24	12. Trigonometry	Sine, cosine, complementary angle theorem (angle-slope conversion spreadsheets)	Radians, 3-D
3/27 - 4/5	13. Quadrilaterals	Identification and properties, area	Proof situations
4/17 - 4/28	14. Function transformations	Linear, polynomial, reciprocal, exponential, periodic	(Desmos sliders)
5/1 - 5/12	15. IB Trigonomety	Sine and cosine rules, sine area of a triangle	
5/15 - 5/26	16. Data analysis	Sets, Venn diagrams, probability, trees	-
5/30 - 6/13	Review	-	-

159 Instructional days