Unit 1: Segments, length and area

Date	Lesson title	Topics	Extension topics
9/8	1.1 Segment addition	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	
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	Rectangles and squares, 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)

Copy of course plan

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 polyhedron	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