

## Geometry CP - Final Exam Study Guide

List of Topics to Review (this is definitely very broad):

Chapter 1:

- Identify and name points, lines, planes
- Measure segments
- midpoint/distance formula
- perimeter/area in the coordinate plane
- Measuring angles and analyzing their relationships

Chapter 2:

- Conditional statements
- Inductive and deductive reasoning
- Algebraic proofs
- Proofs about segments and angles
- Prove other geometric relationships (section 6)

Chapter 3:

- Pairs of lines and angles
- Transversal angle relationships
- Proofs with parallel and perpendicular lines
- Equations of parallel and perpendicular lines (slope-intercept and point-slope)

Chapter 4:

- Congruence Transformations
  - Translations
  - Reflections
  - Rotations
- Similarity Transformations
  - Dilations

Chapter 5:

- Classifying triangles by angles and sides
- Congruent polygons (congruent corresponding parts)
- Prove triangle congruence by SSS, SAS, ASA, AAS
- Prove corresponding parts are congruent with CPCTC

#### Chapter 6:

- Perpendicular lines and angle bisectors (in triangles too)
- Identify medians and altitudes in triangles
- Properties of points of concurrency: (circumcenter, incenter, centroid, orthocenter)
- Triangle Midsegment Theorem
- Triangle Inequalities

#### Chapter 7:

- Angles of polygons
- Properties of parallelograms
  - Special parallelograms too (rhombus, rectangle, square)
- Prove that a quadrilateral is a parallelogram in coordinate plane
- Properties of trapezoids and kites

#### Chapter 8:

- Similar polygons
- Prove triangle similarity by AA, SSS, SAS
- Proportionality theorems

#### Chapter 9:

- Pythagorean theorem
- Special right triangles (45-45-90; 30-60-90)
- Similar right triangles
- Sine, Cosine, Tangent Ratios (SOHCAHTOA) and inverse - solve right triangles

#### Chapter 10: (ignore section 6)

- Identify lines and segments that intersect circles
- Angles in polygons and circles
  - Chords in circles
- Inscribed angles and quadrilaterals
- Circles in the coordinate plane

#### Chapter 11:

- circumference/area of a circle + arc length/sector area

- Areas of regular polygons
- Volumes of prisms/cylinders/pyramids/cones/spheres
- Surface area of cones/spheres