Long list of theorems for Final Exam

The topics listed here are recommended for review. One of them will be included (in a rephrased form) in the exam. It will be required to formulate the relevant definitions and theorems, but no proofs will be required. The word *section* means below a section from the textbook *Lessons in Geometry* by Jacques Hadamard, the words *Isometries* and *Similarity* refer to files isometries.pdf and similarity.pdf.

(1) Theorem about vertical angles, section **12**.
(2) Existence and uniqueness of perpendicular to a line from a point, section **19**.
(3) Theorems about isosceles triangles and their properties, section **23**.
(4) Tests for congruence of triangles, section **24**.
(5) Triangle inequality and its corollaries, sections **26, 27.**
(6) Bisector of an angle as the locus of point equidistant from the sides, section **36**.
(7) Tests for parallel lines, section **38**.
(8) Drawing through a given point a line parallel to a given line, section **39**.
(9) Parallel Axiom, angles formed by parallel lines and transversal, sections **40, 41**.
(10) The sum of interior angles in a triangle, section **44**.
(11) Properties of a parallelogram, section **46, 46b, 47**.
(12) Special types of parallelograms and their properties, section **48**.
(13) Theorems about concurrent lines in a triangle, sections **52 - 54, 56**.
(14) Theorem about a midline in a triangle, section **55**.
(15) Existence and uniqueness of a circle passing through three points, section **57**.
(16) Intersection of a line and a circle, section **58**.
(17) Theorems about a diameter and a chord perpendicular to it, sections **61, 63**.
(18) Theorems about an inscribed angle, section **73**.
(19) Corollaries of the theorem about an inscribed angle, sections **74 -80**.
(20) Constructions presented in sections **85 - 91, 93, 94**.
(21) Recovering an isometry from its restriction to three points, Theorem 1 from *Isometries*.
(22) Presentation of any plane isometry as a composition of at most three reflections, Theorem 2 from *Isometries*.
(23) Types of isometries. Classification of plane isometries, Theorem 11 from *Isometries*.
(24) Composition of two reflections, Theorem 7 from *Isometries*.
(25) Thales' Theorem, sections **113** and **114**.
(26) Properties of homotheties. A homothety as a similarity transformation, Theorems 1 and 2 from *Similarity*.
(27) For angles, similarity is equivalent to congruence, Theorem 4 from *Similarity*.
(28) Similarity tests for triangles, Theorems 5 - 7 from *Similarity*.
(29) Theorem about a bisector, section **115**.
(30) Geometric means in a right triangle, sections **123, 125**.
(31) Pythagoras Theorem, section **124**.
(32) Theorems about proportional segments in a circle, sections **131, 132**.
(33) Radical axis of two circles, sections **126, 136, 137**.