Postulate 15 **(AA Similarity Postulate)** If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar. (p. 255)

Postulate 16 **(Arc Addition Postulate)** The measure of the arc formed by two adjacent arcs is the sum of the measures of these two arcs. (p. 339)

Postulate 17 The area of a square is the square of the length of a side. ($A = s^2$) (p. 423)

Postulate 18 **(Area Congruence Postulate)** If two figures are congruent, then they have the same area. (p. 423)

Postulate 19 **(Area Addition Postulate)** The area of a region is the sum of the areas of its non-overlapping parts. (p. 424)

Theorems

Points, Lines, Planes, and Angles

1-1 If two lines intersect, then they intersect in exactly one point. (p. 23)

1-2 Through a line and a point not in the line there is exactly one plane. (p. 23)

1-3 If two lines intersect, then exactly one plane contains the lines. (p. 23)

Deductive Reasoning

2-1 **(Midpoint Theorem)** If M is the midpoint of $\overline{AB}$, then $AM = \frac{1}{2}AB$ and $MB = \frac{1}{2}AB$. (p. 43)

2-2 **(Angle Bisector Theorem)** If $\overrightarrow{BX}$ is the bisector of $\angle ABC$, then $m\angle ABX = \frac{1}{2}m\angle ABC$ and $m\angle XBC = \frac{1}{2}m\angle ABC$. (p. 44)

2-3 Vertical angles are congruent. (p. 51)

2-4 If two lines are perpendicular, then they form congruent adjacent angles. (p. 56)

2-5 If two lines form congruent adjacent angles, then the lines are perpendicular. (p. 56)

2-6 If the exterior sides of two adjacent acute angles are perpendicular, then the angles are complementary. (p. 56)

2-7 If two angles are supplements of congruent angles (or of the same angle), then the two angles are congruent. (p. 61)

2-8 If two angles are complements of congruent angles (or of the same angle), then the two angles are congruent. (p. 61)