CHAPTER 2 PROOFS – COMMONLY USED REASONS

Definition of congruent segments *Segments w/the same measure are congruent.*	**Definition of congruent angles** *Angles w/the same measure are congruent.*
Definition of right angles *An angle with a measure of 90° is a right angle.*	Definition of straight angles *An angle w/a measure of 180° is a straight angle.*
Assumed from diagram. *Straight angles, linear pairs, vertical angles*	Right angles are congruent.
Straight angles are congruent.	Angle Addition Postulate *Used in complementary angle proofs.*
Definition of bisects (or trisects) *If a ray bisects an angle, then it divides the angle into two congruent angles.*	Definition of perpendicular (⊥) *If two lines are perpendicular, then they intersect and form right angles.*
Definition of midpoint *If a point is a midpoint of a segment, then it divides the segment into two congruent segments.*	**Definition of complementary angles** *If the sum of two angles is a right angle, then they are complementary.*
Definition of supplementary angles *If the sum of two angles is a straight angle, then they are supplementary.*	**Linear Pair Postulate** *If two angles form a linear pair, then they are supplementary.*
Reflexive	**Substitution**
Congruent Supplements Theorem *If angles are supplementary to the same angle (or congruent angles), then they are congruent.*	Congruent Complements Theorem *If angles are complementary to the same angle (or congruent angles), then they are congruent.*

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Segment Addition Property *If a segment (or congruent segments) is added to two congruent segments, the sums are congruent.*	Angle Addition Property *If an angle (or congruent angles) is added to two congruent angles, the sums are congruent.*
Segment Subtraction Property *If a segment (or congruent segments) is subtracted from two congruent segments, the differences are congruent.*	**Angle Subtraction Property** *If an angle (or congruent angles) is subtracted from two congruent angles, the differences are congruent.*
Vertical angles are congruent.	**TRANSITIVE PROPERTY** *If angles (or segments) are congruent to the same (or congruent) angle (or segment), then they are congruent to each other.*
ALTERNATE INTERIOR ANGLES THEOREM *If two parallel lines are cut by a transversal, each pair of alternate interior angles are congruent.*	CONVERSE OF THE ALTERNATE INTERIOR ANGLES THEOREM *If two lines and a transversal form alternate interior angles that are congruent, then the two lines are parallel.*
Corresponding Angles Postulate *If two parallel lines are cut by a transversal, each pair of corresponding angles are congruent.*	**Converse of the Corresponding Angles Postulate** *If two lines and a transversal form corresponding angles that are congruent, then the two lines are parallel.*
SAME-SIDE INTERIOR ANGLES THEOREM *If two parallel lines are cut by a transversal, each pair of same-side interior angles are supplementary.*	Converse of the Same-Side Interior Angles Theorem *If two lines and a transversal form same-side interior angles that are supplementary, then the two lines are parallel.*
Alternate Exterior Angles Theorem *If two parallel lines are cut by a transversal, each pair of alternate exterior angles are congruent.*	