

Section 2.7 Two-Column Proof with Angles

This section introduces several new theorems most of which are obvious extensions to what we have already learned. It is important to look at the proof of these theorems as provided on pages 106 and 107. I will not reproduce those theorems here. It is also important to note that the theorem numbers referred to here are simply given to help you find them in the book. Other books would number them differently.

Theorem 2-2: Supplement Theorem: If two angles form a linear pair, then they are supplementary.

Theorem 2-3: Congruence of angles is reflexive, symmetric and transitive.

Theorem 2-4: Angles that are supplementary to the same angle or congruent angles are congruent.

Theorem 2-5: Angles that are complementary to the same angle or congruent angles are congruent.

Theorem 2-6: All right angles are congruent.

Theorem 2-7 Vertical Angles are congruent

Theorem 2-8 Perpendicular lines intersect to form four right angles.

You might also find it interesting to notice that the difficulty in proving these theorems comes from the difficulty of remembering what you have been given or what has been proven in the book this far versus what you know through common sense. For example perpendicular lines intersect to form four right angles seems obvious from the definition that perpendicular lines intersect to form a right angle (pg 56). You can use that definition to easily prove that all four angles are right angles.