

Name: _____

Block:

Some Definitions:

Two angles are **adjacent angles** if and only if two angles are coplanar, have no common interior and share a ray.

(please make a sketch of two adjacent angles)

Two angles form a **linear pair** if and only if two angles are adjacent and their non common rays form a line (straight angle).

(please make a sketch of a linear pair)

Two angles are **vertical angles** if and only if two angles are formed by two intersecting lines and are not adjacent.

(please make a sketch of vertical angles)

Two lines are **Perpendicular** (\perp) if and only if the two lines meet to form equal supplementary angles (or meet to form right angles).

(please sketch two perpendicular lines)

A **Theorem** is one or more implications (if...then statements) accepted by the existence of one or more proofs.

Can you name any theorems we have encountered so far?

A **Postulate** is one or more implications (if...then statements) accepted without proof.

Can you name any postulates we have encountered?

Once a postulate is agreed to or a theorem has been proven its implications can be used in future proofs.

Abstract example: the theorem $P \Rightarrow Q$ was previously proved and in a new proof we discover that P is true, we can then say Q is true as the next statement and use the statement of the theorem as the reason.

Another example: Given: $\overline{AB} \perp \overline{CD}$ and intersect at E . Show: $\angle AEC \cong \angle BEC$
(fill in any blanks)

1. $\overline{AB} \perp \overline{CD}$ and intersect at E . _____
2. _____ Definition of \perp
3. $\angle AEC \cong \angle BEC$ Thm. All right angles are \cong

Two more postulates: (we have already used)

The **line addition postulate:** If B is on \overline{AC} then $AB + BC = AC$

The **angle addition postulate:** If \overline{OB} is in the interior of $\angle AOC$ then $\angle AOB + \angle BOC = \angle AOC$

Because of the angle addition postulate we know that the angles in a linear pair are

_____.

Homework: Read section 2.5 in your book and do 1-7 on page 86-87 and attach to this sheet.

