

# Homework Check:

-Grab a computer but keep it CLOSED on your desk

1.  $a = 60^\circ, b = 120^\circ, c = 120^\circ$
2.  $a = 90^\circ, b = 90^\circ, c = 50^\circ$
3.  $a = 77^\circ, b = 52^\circ, c = 77^\circ, d = 51^\circ$
4.  $a = 60^\circ, b = c = 120^\circ, d = f = 115^\circ, e = 65^\circ, g = i = 125^\circ, h = 55^\circ$
5.  $a = 90^\circ, b = 163^\circ, c = 17^\circ, d = 110^\circ, e = 70^\circ$
6. The measures of the linear pair of angles add up to  $170^\circ$ , not  $180^\circ$ .
7. The angles at which he should cut measure  $45^\circ$ .

9. sample counterexample:

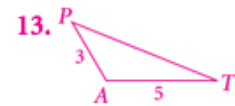


The converse is not true.

10.



each must be a right angle

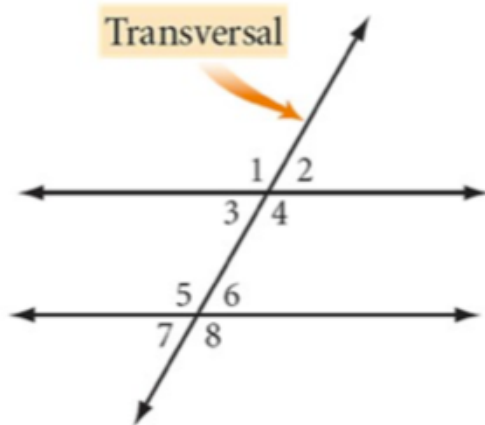


15.



19.  $22.5^\circ$

## 2.6 - Special Angles on Parallel Lines



Corresponding Angles -

(same spot different line)

$$\angle 1 \cong \angle 5$$

Alternate Interior Angles -

(Inside angles on opposite sides of transversal)

$$\angle 5 \cong \angle 4$$

Alternate Exterior Angles -

(outside angles on opposite sides of transversal)

$$\angle 7 \cong \angle 2$$

## Investigation on Geometer's Sketchpad

**Corresponding Angles Conjecture:** If two parallel lines are cut by a transversal, then corresponding angles are congruent



**Alternate Interior Angles Conjecture:** If two parallel lines are cut by a transversal, then alternate interior angles are congruent



**Alternate Exterior Angles Conjecture:** If two parallel lines are cut by a transversal, then alternate exterior angles are congruent



**Parallel Lines Conjecture:** If two parallel lines are cut by a transversal, then corresponding angles are congruent, alternate interior angles are congruent, and alternate exterior angles are congruent



**Converse of Parallel Lines Conjecture:** If two lines are cut by a transversal to form pairs of congruent corresponding angles, congruent alternate interior angles, or congruent alternate exterior angles, then the lines are parallel



