## Summary of Postulates and Theorems from Section 2.1

If two parallel lines are cut by a transversal, then

- ➢ Each pair of corresponding angles are congruent

- ➢ Each pair of alternate interior angles are congruent

- ➢ Each pair of alternate exterior angles are congruent

- ➢ Each pair of interior angles on the same side of the transversal are supplementary

- ➢ Each pair of exterior angles on the same side of the transversal are supplementary
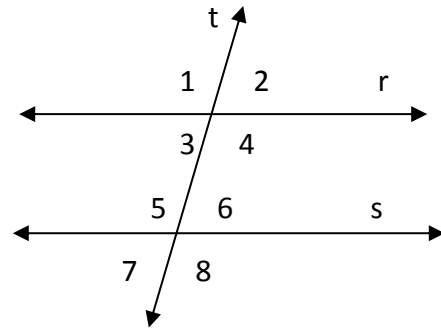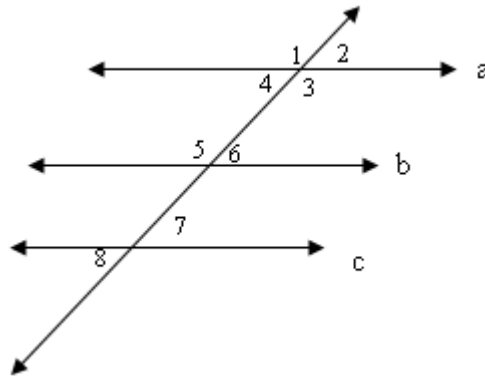
Example:
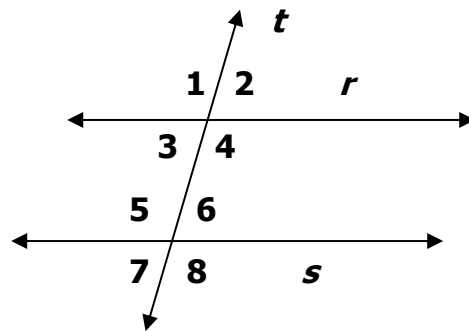
Example 1: Use the figure below. If the measure of $\angle 4 = 48°$. Find the measure angles 1-3 and 5-8.

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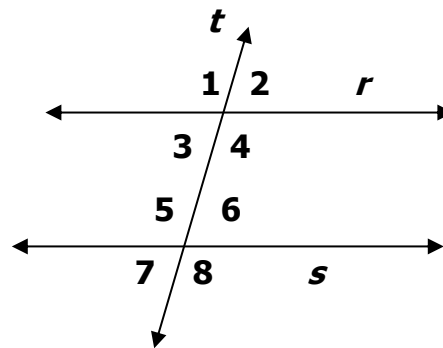
Proof:

Given: $a \parallel b, b \parallel c$

Prove: $\angle 2 \cong \angle 8$
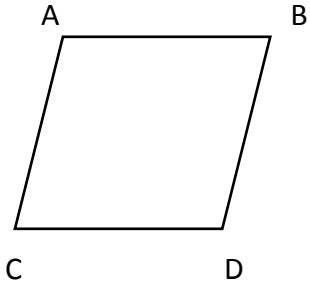
Example 2:

a. If the $m\angle 5 = 3x + 13$ and $m\angle 8 = 4x + 3$. Find the value of x and the measure of $m\angle 5$ and $\angle 6$.

b. If the $m\angle 3 = 7x - 10$ and $m\angle 5 = 70 - x$. Find the value of x and the measure of $m\angle 3$ and $\angle 5$.

Example 3:   a. Given: AC || BD and AB || DC   Which angle(s) measure the same as $\angle B$?
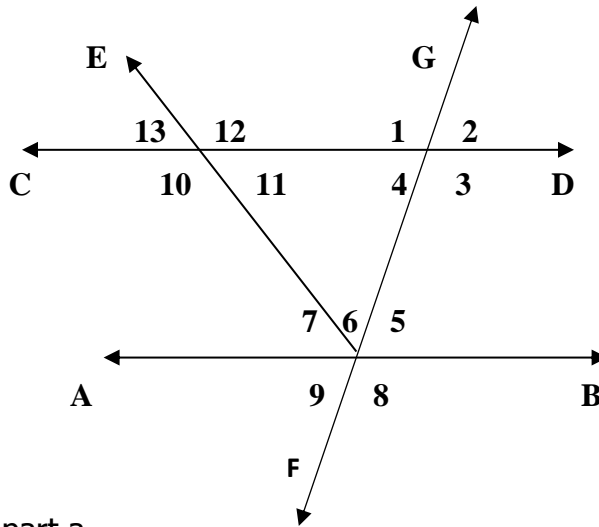
   b. If $\angle A = 4x + 2$ and $\angle B = 4x - 2$ Find the measure of all angles .

A   B

C   D

Example 4:

E   G

$\overleftrightarrow{AB} \parallel \overrightarrow{CD}$

13 12   1 2
C   10 11   4 3   D

$\overleftarrow{EF}$ bisects $\angle AFG$

7 6 5

A   9 8   B

F

Find the measures of angles 1-13 for part a

a. Given $m\angle 1 = 100°$

B. Given: $m\angle 3 = 4x - 9$

$m\angle 5 = x + 19$

OK, you Try these: p. 75 # 27 and 29