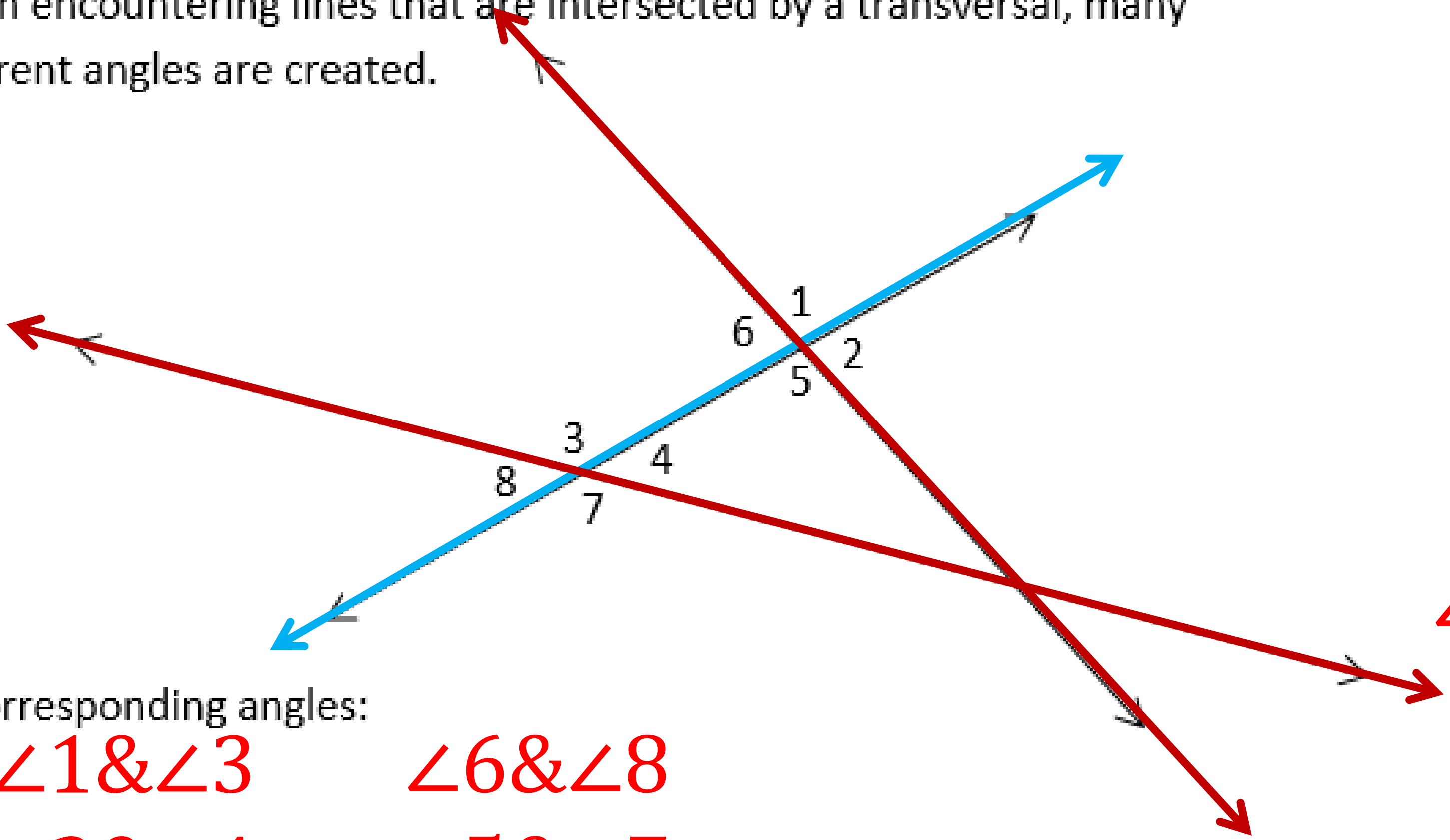
IC21

Angles formed by intersection lines

When encountering lines that are intersected by a transversal, many different angles are created.



a. Corresponding angles:

$\angle 1 \& \angle 3$ $\angle 6 \& \angle 8$

$\angle 2 \& \angle 4$ $\angle 5 \& \angle 7$

b. Alternate interior angles:

$\angle 6 \& \angle 4$ $\angle 5 \& \angle 3$

c. Alternate exterior angles:

$\angle 1 \& \angle 7$ $\angle 2 \& \angle 8$

d. Same-side interior angles:

$\angle 6 \& \angle 3$ $\angle 5 \& \angle 4$

e. Same-side exterior angles:

$\angle 1 \& \angle 8$ $\angle 2 \& \angle 7$

If the lines that are intersected are parallel, additional statements can be made.

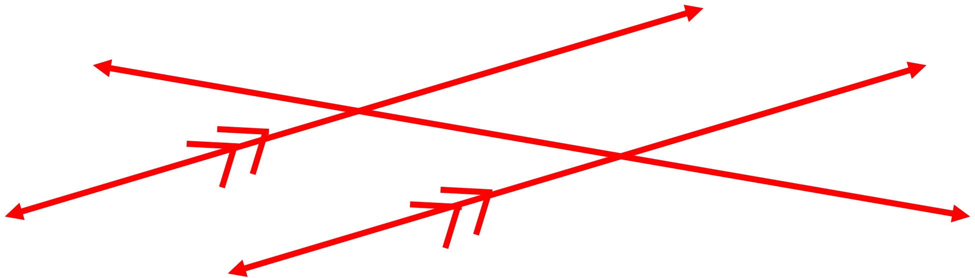
a. If lines are parallel, corresponding angles are ____$\cong$____

b. If lines are parallel, alternate interior angles are ____$\cong$____

c. If lines are parallel, alternate exterior angles are ____$\cong$____

d. If lines are parallel, same-side interior angles are ____supplementary____

e. If lines are parallel, same-side exterior angles are ____supplementary____



1. Provide the name of the following relationships.

a) $\angle 1$ & $\angle 6$ Corr ∠'s

b) $\angle 2$ & $\angle 7$ Alt. ext. ∠'s

c) $\angle 16$ & $\angle 14$ Vertical ∠'s

d) $\angle 14$ & $\angle 11$ s-s int ∠'s

e) $\angle 1$ & $\angle 7$ s-s ext ∠'s

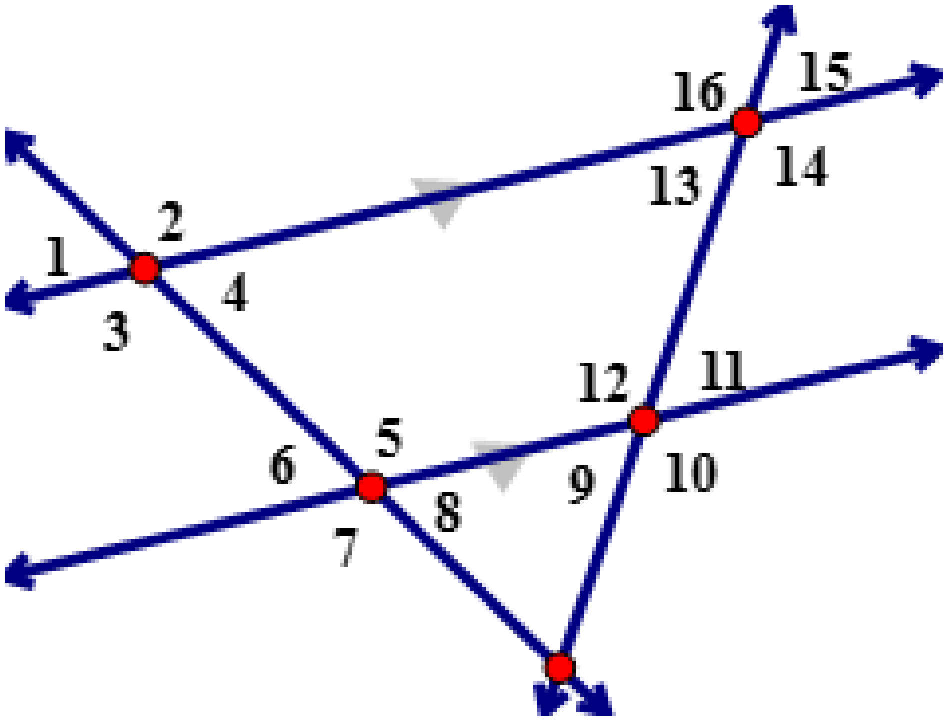
f) $\angle 6$ & $\angle 5$ Supp/linear pair

g) $\angle 15$ & $\angle 10$ s-s ext ∠'s

h) $\angle 1$ & $\angle 2$ Supp/linear pair

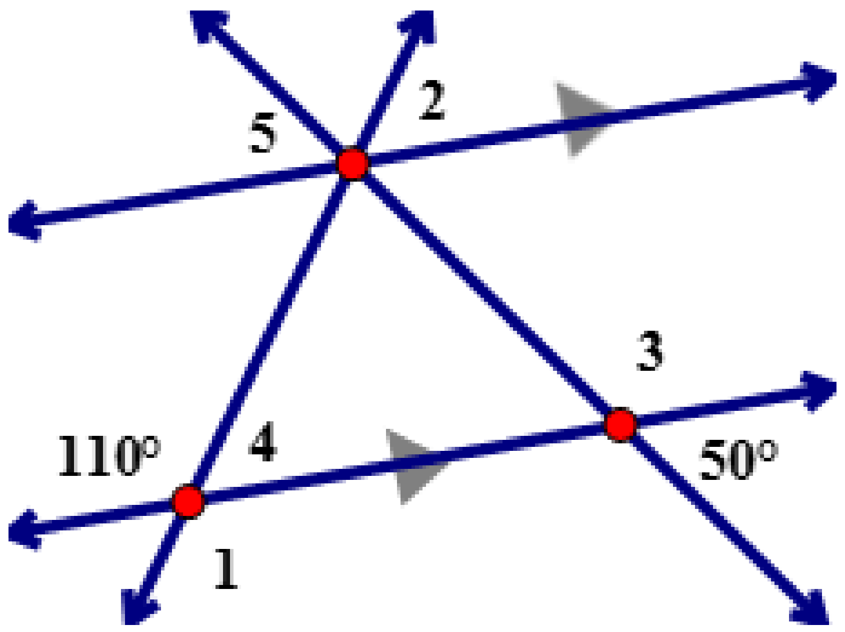
i) $\angle 13$ & $\angle 12$ s-s int ∠'s

j) $\angle 16$ & $\angle 9$ s-s ext ∠'s



2. Find the measure of the angle and give a reason for knowing it.

	(measure)	(reason)		(measure)	(reason)
a) m∠1 =	110°	Vert ∠'S thm	b) m∠2 =	70°	s-s ext ∠'s Supp/180°
c) m∠3 =	130°	Supp/linear pair	d) m∠4 =	70°	Supp/linear pair
e) m∠5 =	50°	Alt. ext. ∠'s			



3. Find the measure of the angle.

a) $m\angle 1$ = 83°　　b) $m\angle 2$ = 97°　　c) $m\angle 3$ = 97°　　d) $m\angle 4$ = 83°

e) $m\angle 5$ = 83°　　f) $m\angle 6$ = 97°