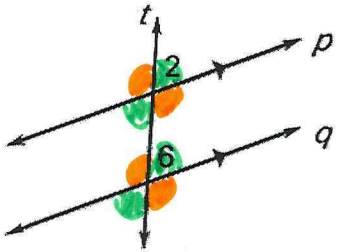
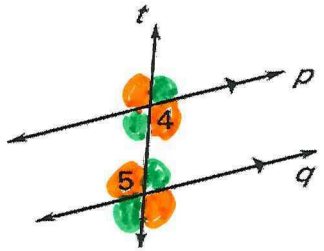
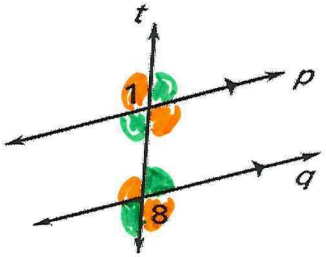
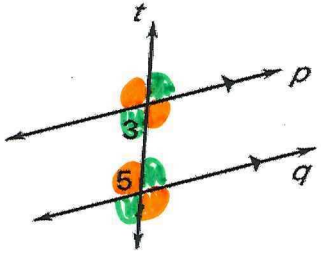
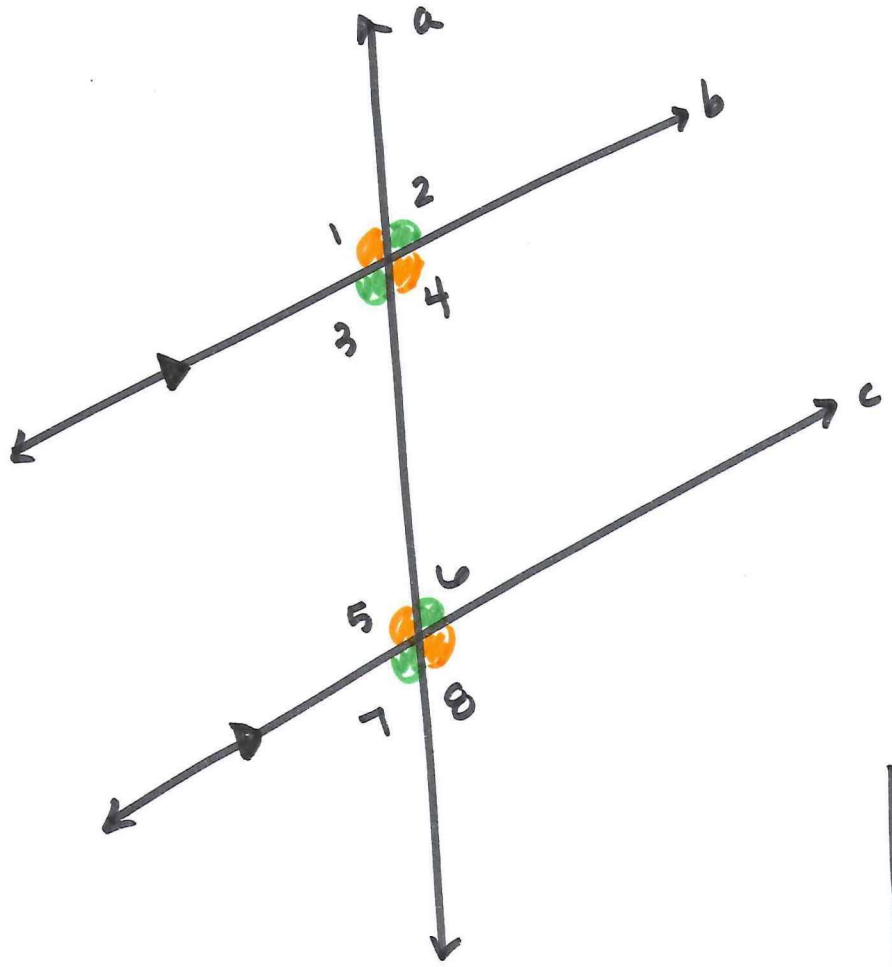
Section 3.2 Date

Use Parallel Lines and Transversals

Vocabulary	Definition	Picture	
POSTULATE 15 CORRESPONDING ANGLES POSTULTAE	If two parallel lines are cut by a transversal, then the corresponding angles are congruent.		If p∥q, then ∠2 ≅ ∠6. CA ≅
THEOREM 3.1 ALTERNATE INTERIOR ANGLES THEOREM	If two parallel lines are cut by a transversal, then the alternate interior angles are congruent.		If p∥q, then ∠4 ≅ ∠5. AI ≅
THEOREM 3.2 ALTERNATE EXTERIOR ANGLES THEOREM	If two parallel lines are cut by a transversal, then the alternate exterior angles are congruent.		If p∥q, then ∠1 ≅ ∠8. AE ≅
THEOREM 3.3 CONSECUTIVE INTERIOR ANGLES THEOREM	If two parallel lines are cut by a transversal, then the consecutive interior angles are supplementary. ■ + ■ = 180°		If p∥q, then ∠3 and ∠5 are supplementary. m∠3 + m∠5 = 180° CI supp or SSI supp.

If line b // line c, then . . .



CA ≅

$\angle 1 \cong \angle 5$

$\angle 4 \cong \angle 8$

$\angle 2 \cong \angle 6$

$\angle 3 \cong \angle 7$

AI ≅

$\angle 3 \cong \angle 6$

$\angle 4 \cong \angle 5$

AE ≅

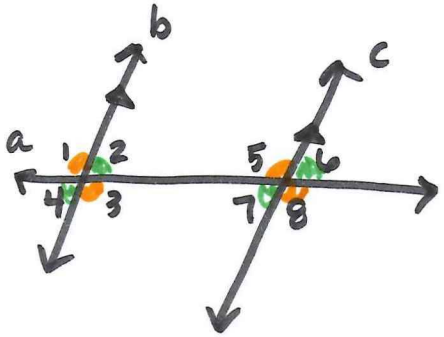
$\angle 1 \cong \angle 8$

$\angle 2 \cong \angle 7$

CI or SSI supp.

$m\angle 3 + m\angle 5 = 180°$

$m\angle 4 + m\angle 6 = 180°$



CA ≅

$\angle 1 \cong \angle 5$

$\angle 3 \cong \angle 8$

$\angle 2 \cong \angle 6$

$\angle 4 \cong \angle 7$

AE ≅

$\angle 1 \cong \angle 8$

$\angle 4 \cong \angle 6$

AI ≅

$\angle 3 \cong \angle 5$

$\angle 2 \cong \angle 7$

CI or SSI supp.

$m\angle 3 + m\angle 7 = 180°$

$m\angle 2 + m\angle 5 = 180°$

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* you still have VAs and LPs *

(only when 2 lines intersect)

VA ≅

$\angle 1 \cong \angle 4$

$\angle 2 \cong \angle 3$

> formed by line a and line c

$\angle 5 \cong \angle 8$

$\angle 6 \cong \angle 7$

> formed by line a and line b

LP supp.

$m\angle 1 + m\angle 2 = 180°$

$m\angle 2 + m\angle 4 = 180°$

$m\angle 4 + m\angle 3 = 180°$

$m\angle 3 + m\angle 1 = 180$

$m\angle 5 + m\angle 6 = 180$

$m\angle 6 + m\angle 8 = 180$

$m\angle 8 + m\angle 7 = 180$

$m\angle 7 + m\angle 5 = 180$