

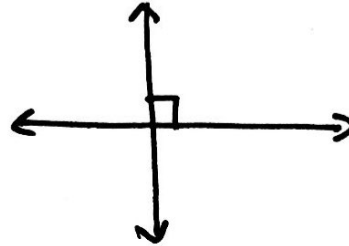
Name: _____ Period: _____

SM2H Unit 7 Notes

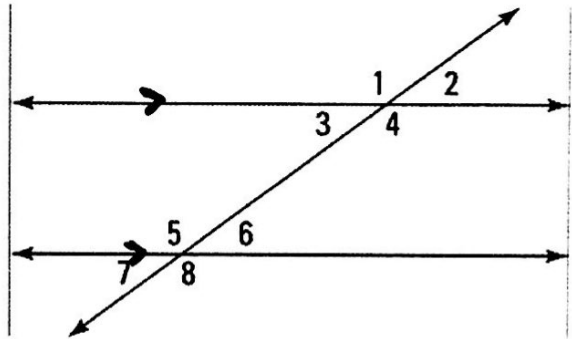
7.1 Parallel Lines and Angles

Perpendicular Lines
2 lines that intersect to make a right angle.

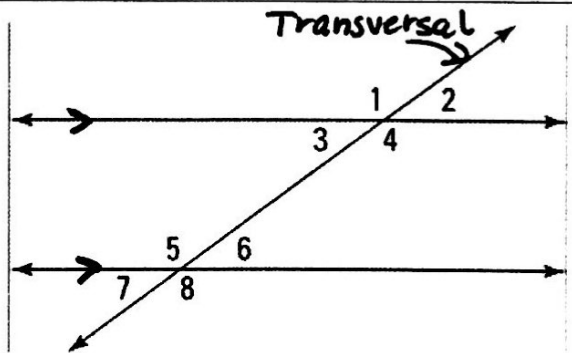
Draw a picture of perpendicular lines here.



Parallel Lines
2 lines that never intersect



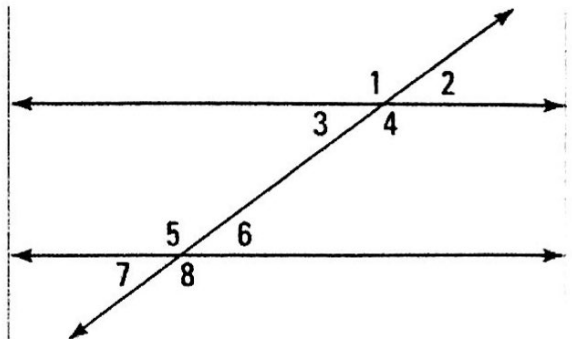
Transversal
A line that cuts a set of parallel lines



Supplementary Angles
2 angles that add up to 180 degrees

$m\angle 1 + m\angle 2 = 180^\circ$
 $m\angle 2 + m\angle 4 = 180^\circ$
 $m\angle 5 + m\angle 7 = 180^\circ$
 $m\angle 7 + m\angle 8 = 180^\circ$

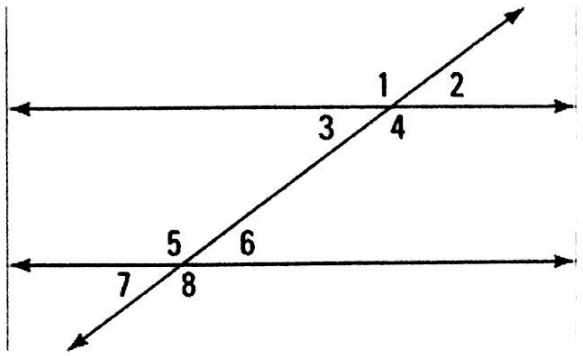
← Examples



Corresponding Angles

2 angles that lie in the same position on each parallel line while touching the transversal (they have the same angle measure)

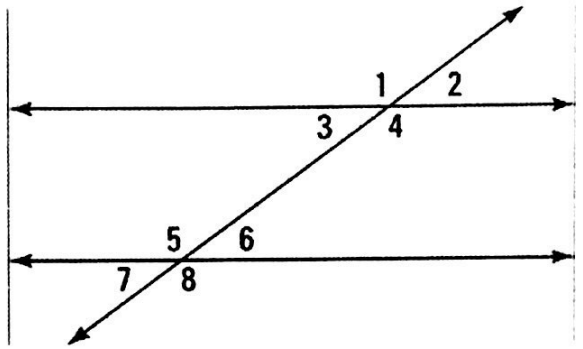
$$\begin{aligned} \angle 1 &\cong \angle 5 & \angle 2 &\cong \angle 6 \\ \angle 3 &\cong \angle 7 & \angle 4 &\cong \angle 8 \end{aligned}$$



Interior Angles

Angles that lie on the inside of parallel lines

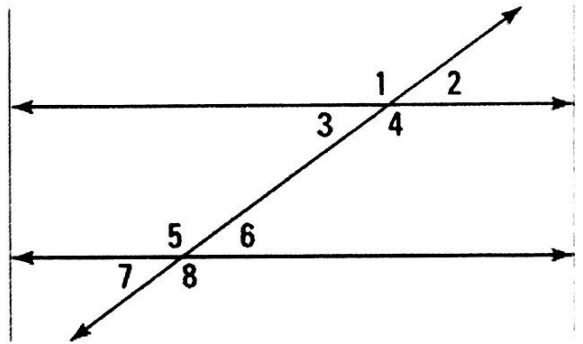
$$\angle 3, \angle 4, \angle 5, \angle 6$$



Exterior Angles

Angles that lie on the outside of the parallel lines

$$\angle 1, \angle 2, \angle 7, \angle 8$$

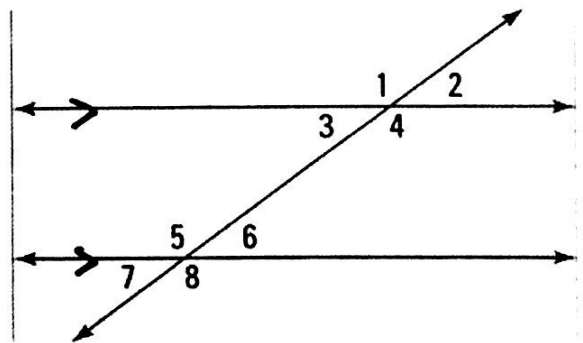


Alternate Interior Angles

Angles that lie inside the parallel lines on opposite sides of the transversal

(they have the same angle measure)

$$\angle 3 \cong \angle 6 \quad \angle 4 \cong \angle 5$$

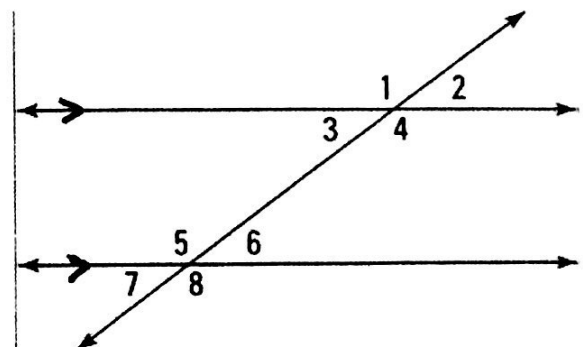


Alternate Exterior Angles

Angles that lie outside the parallel lines on opposite sides of the transversal

(they have the same angle measure)

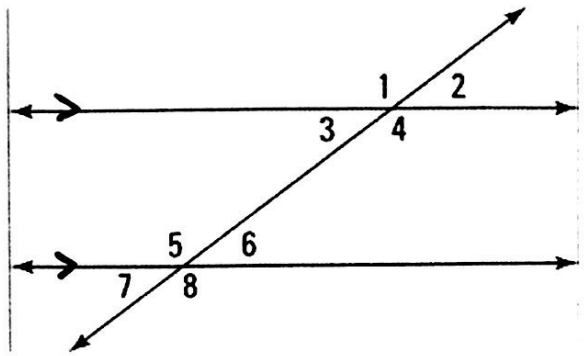
$$\angle 1 \cong \angle 8 \quad \angle 2 \cong \angle 7$$



Same-Side Interior

Two angles that are on the same side of the transversal and inside the parallel lines (they are supplementary)

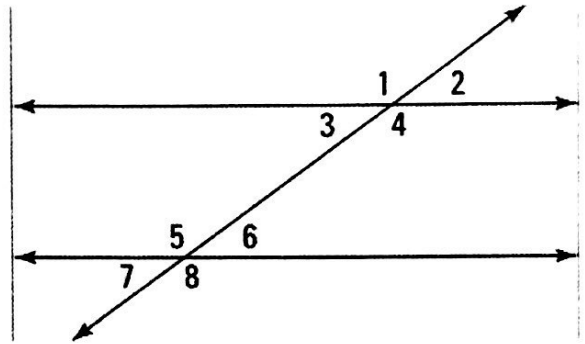
$$m\angle 4 + m\angle 6 = 180^\circ$$
$$m\angle 3 + m\angle 5 = 180^\circ$$



Vertical Angles

A pair of opposite angles made by two intersecting lines (they have the same angle measure)

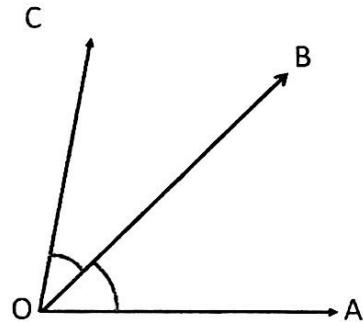
$$\angle 1 \cong \angle 4 \quad \angle 5 \cong \angle 8$$
$$\angle 2 \cong \angle 3 \quad \angle 6 \cong \angle 7$$



Adjacent Angles

Two angles that have a common vertex and a common side

$$\angle COB \text{ and } \angle BOA$$



Complementary Angles

2 angles that add to 90 degrees

$$m\angle 1 + m\angle 2 = 90$$

