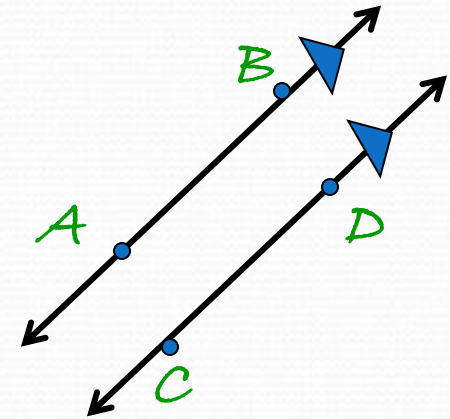


CHAPTER 3

LINES AND ANGLES

PARALLEL LINES

- **Def:** line that do not intersect.
- **Illustration:**

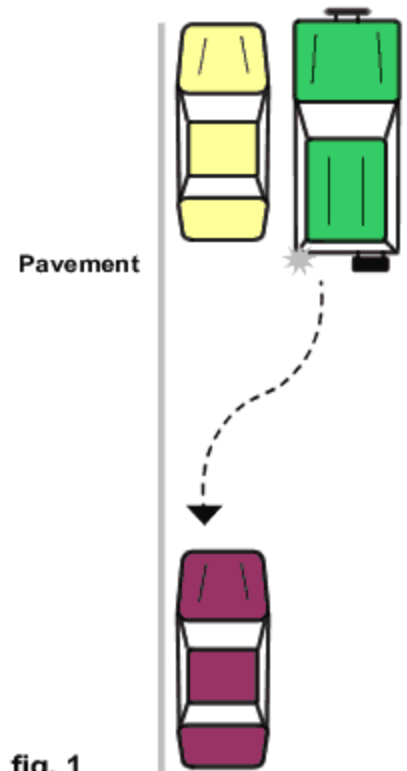


- **Notation:** $l \parallel m$

$AB \parallel CD$

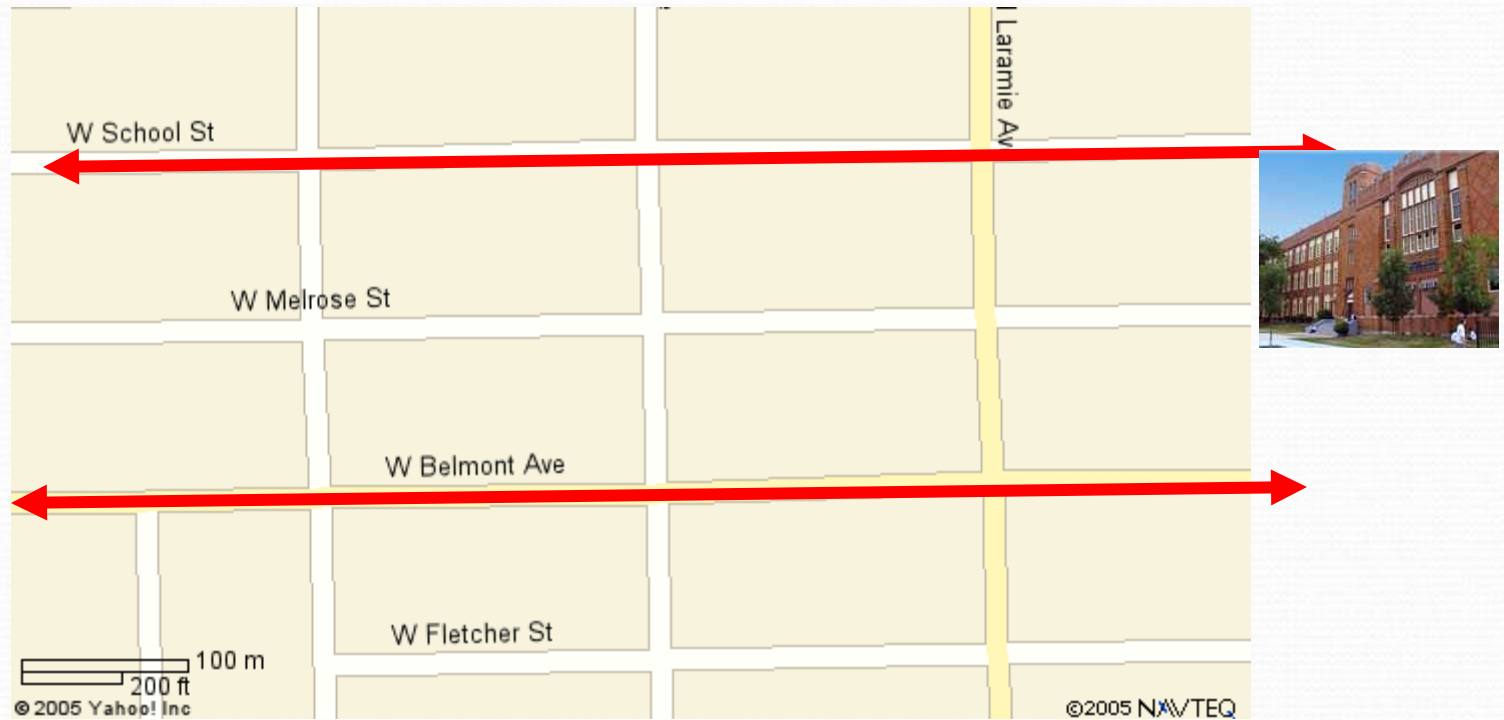
Examples of Parallel Lines

- Hardwood Floor
- Opposite sides of windows, desks, etc.
- Parking slots in parking lot
- Parallel Parking
- Streets: Laramie & LeClaire



Examples of Parallel Lines

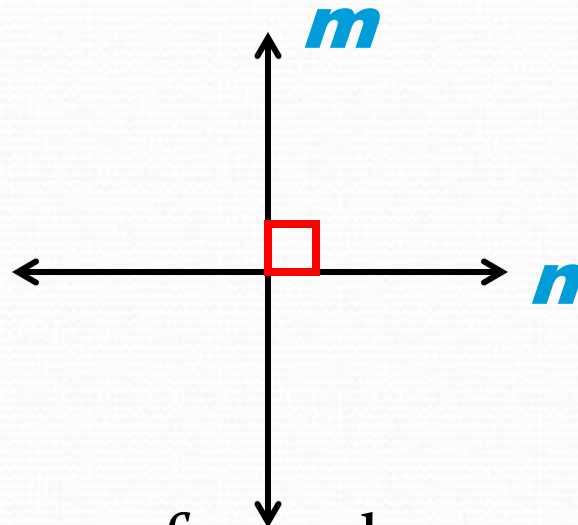
- Streets: Belmont & School



PERPENDICULAR LINES

- **Def:** Lines that intersect to form a right angle.

- **Illustration:**

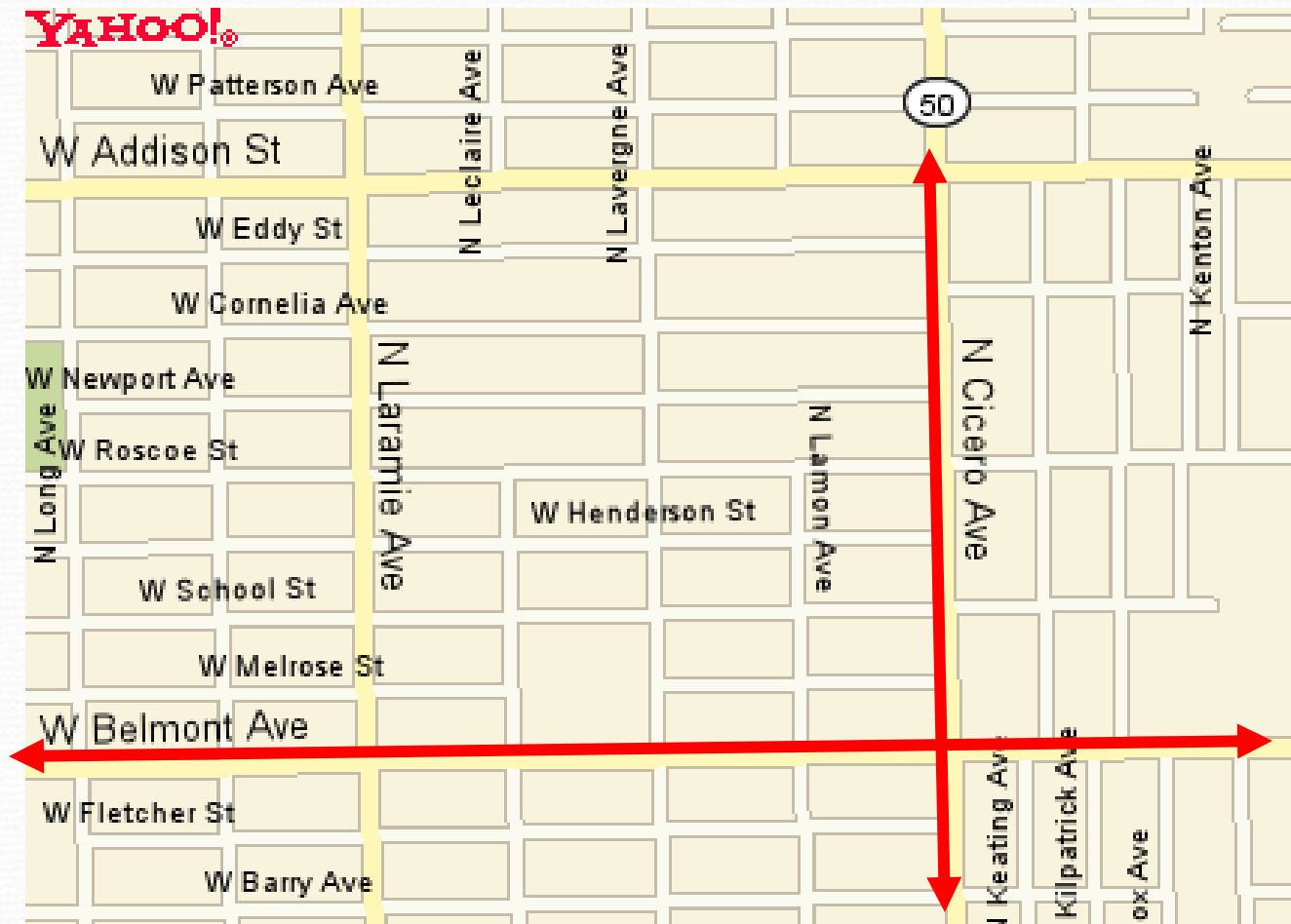


- **Notation:** $m \perp n$

- **Key Fact:** 4 right angles are formed.

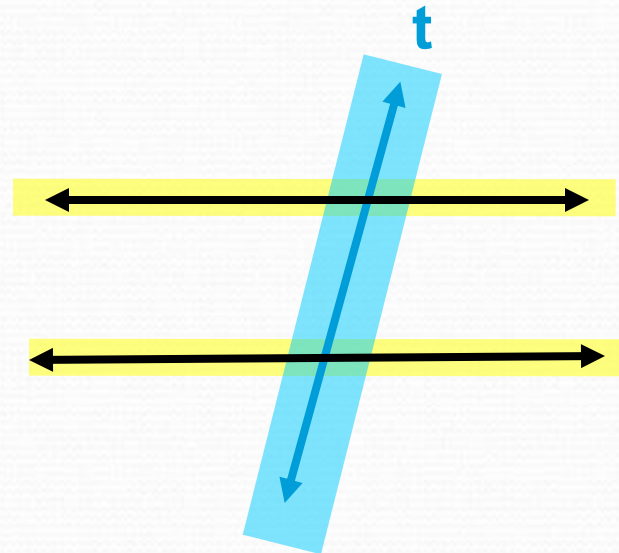
Ex. of Perpendicular Lines

- ◇ Window panes
- ◇ Streets: Belmont and Cicero



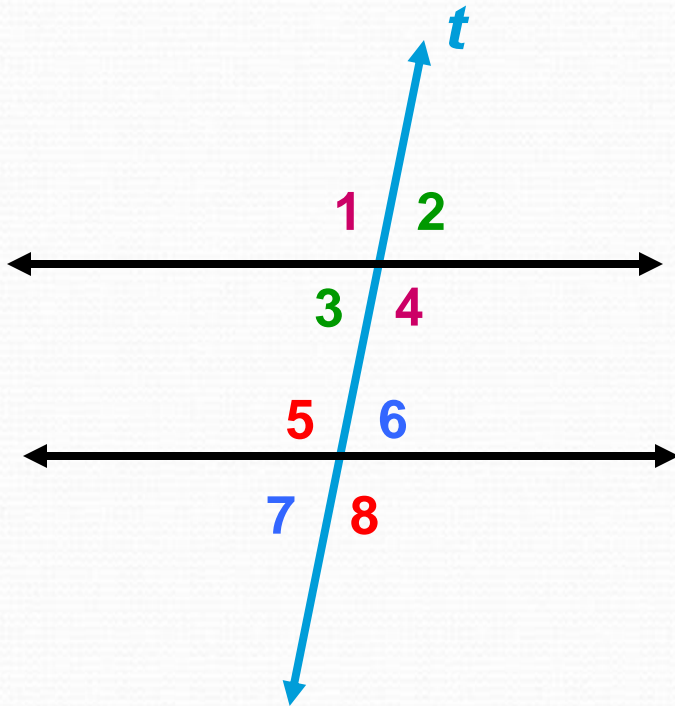
Transversal

- **Def:** a line that intersects two lines at different points
- **Illustration:**



Vertical Angles

- Two angles that are **opposite** angles.



$$\angle 1 \cong \angle 4$$

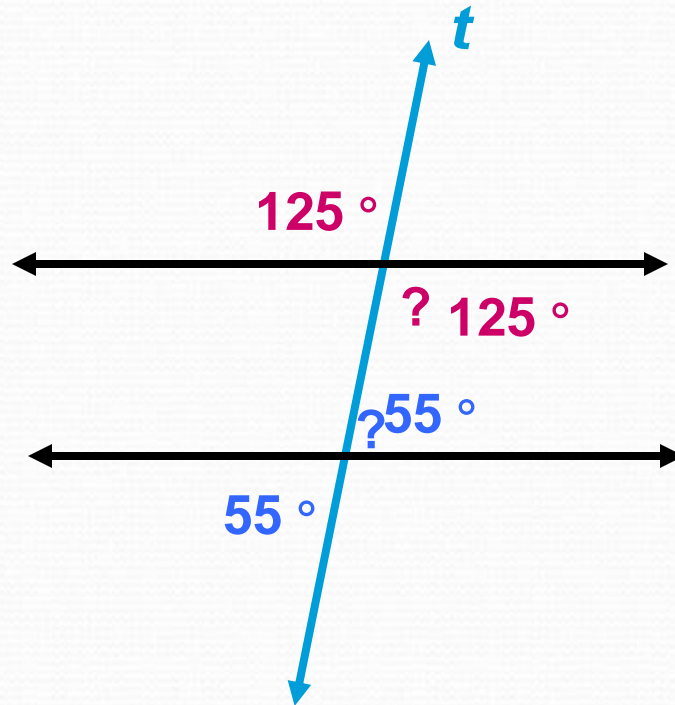
$$\angle 2 \cong \angle 3$$

$$\angle 5 \cong \angle 8$$

$$\angle 6 \cong \angle 7$$

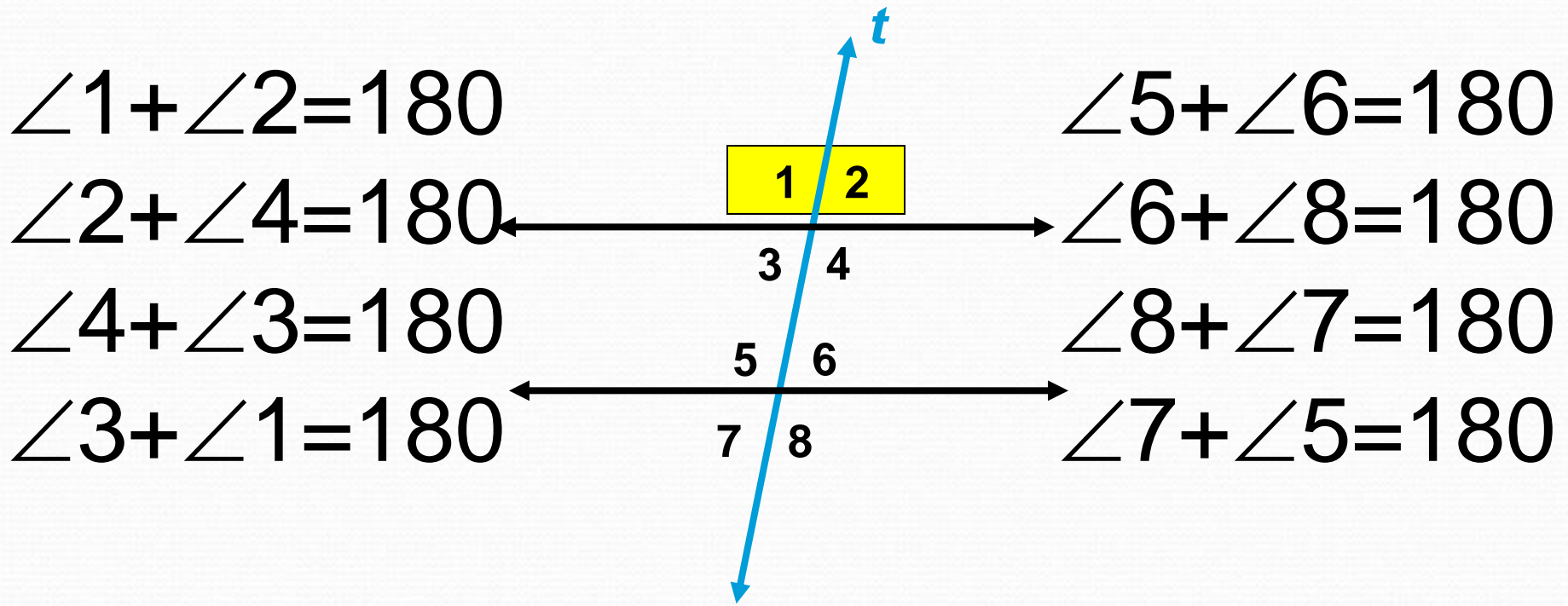
Vertical Angles

- Find the measures of the missing angles



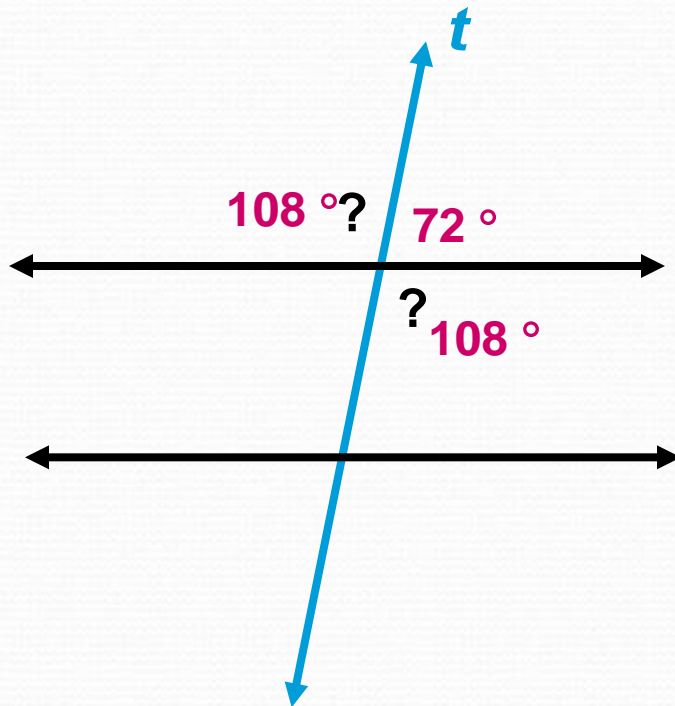
Supplementary Angles/ Linear Pair

- Two angles that form a **line** (sum=180°)



Supplementary Angles/ Linear Pair

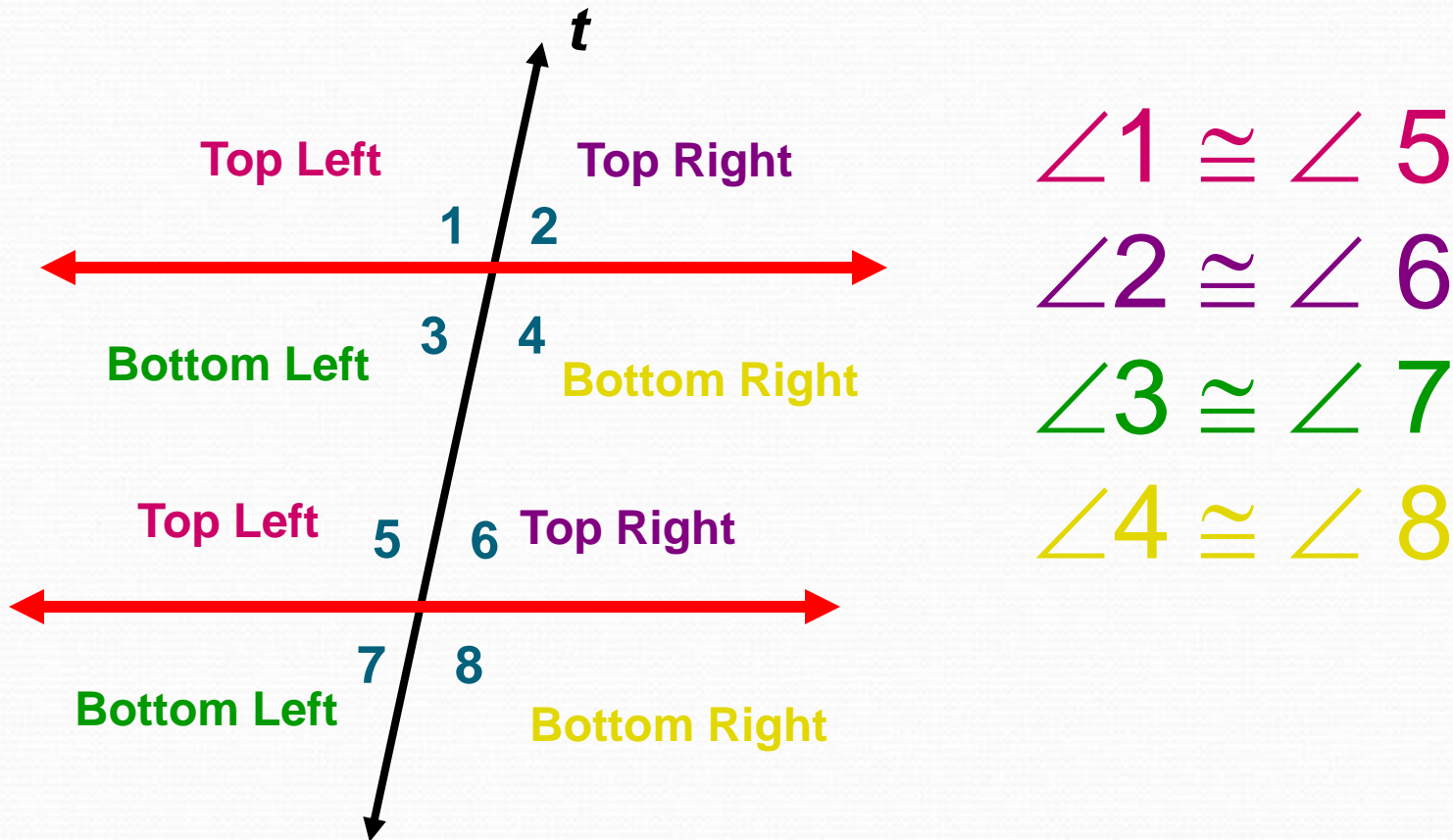
- Find the measures of the missing angles



$$180 - 72$$

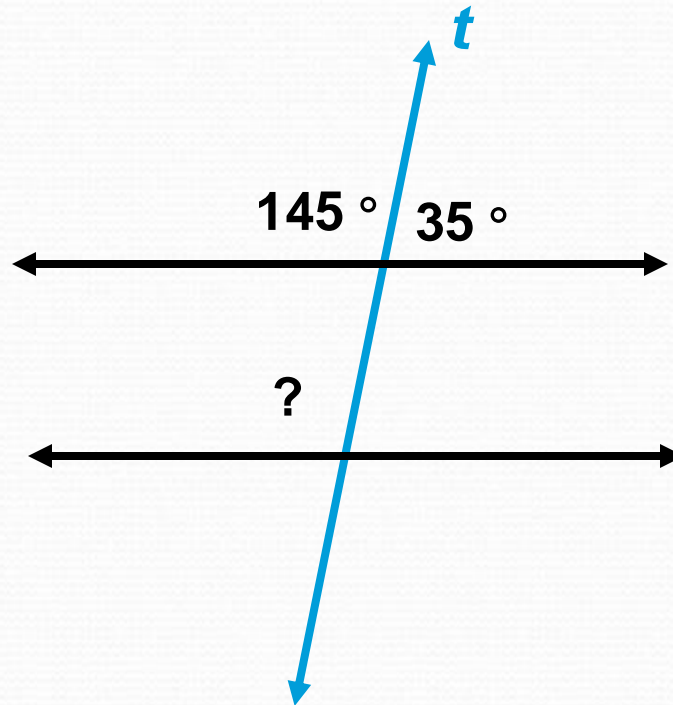
Corresponding Angles

- Two angles that occupy corresponding positions.



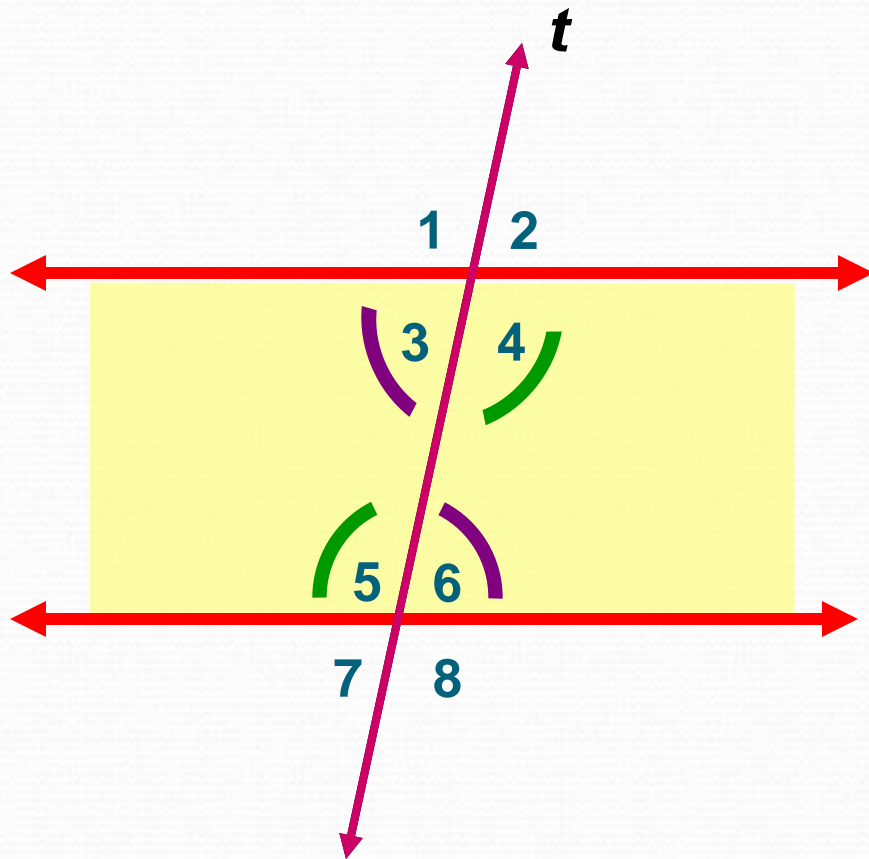
Corresponding Angles

- Find the measures of the missing angles



Alternate Interior Angles

- Two angles that lie between parallel lines on opposite sides of the transversal

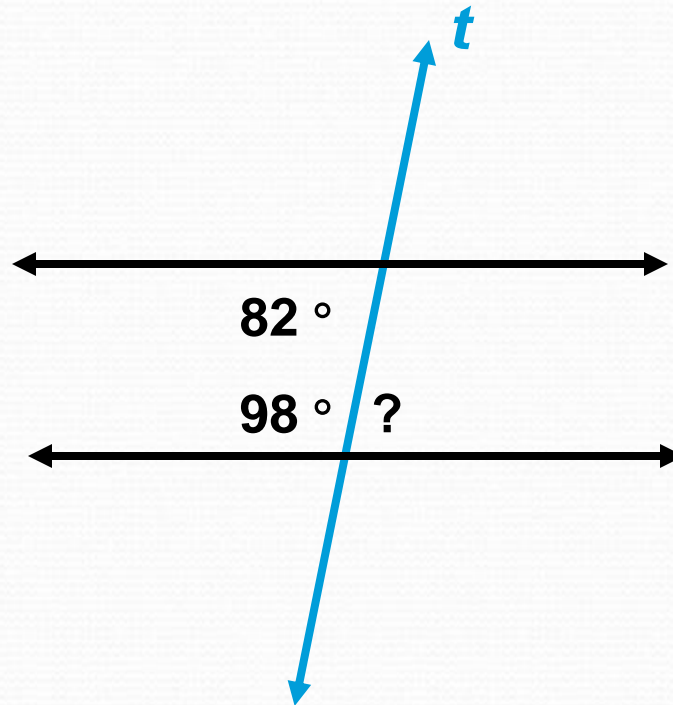


$$\angle 3 \cong \angle 6$$

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

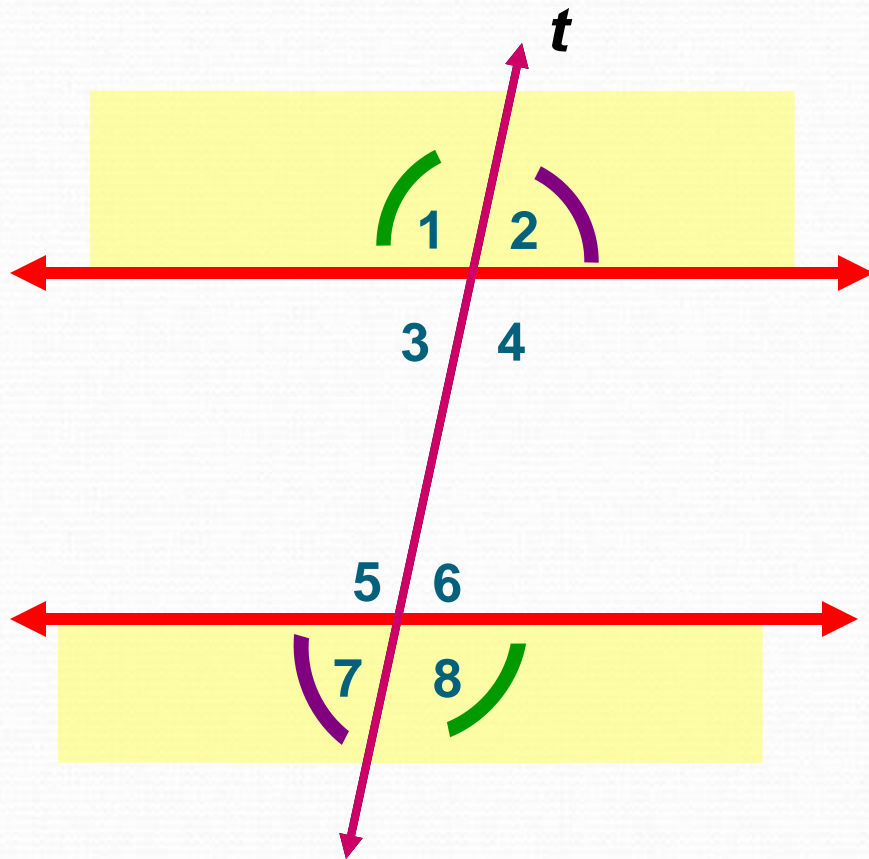
Alternate Interior Angles

- Find the measures of the missing angles



Alternate Exterior Angles

- Two angles that lie outside parallel lines on opposite sides of the transversal

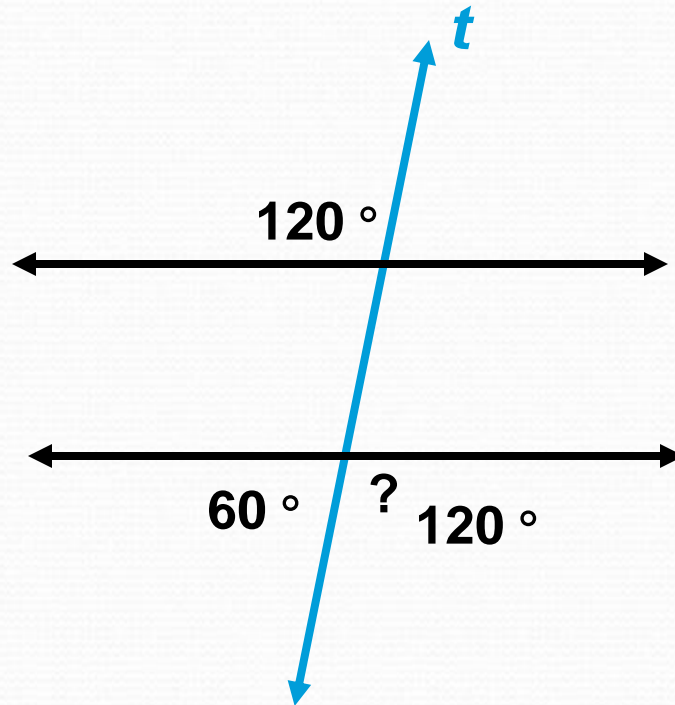


$$\angle 2 \cong \angle 7$$

$$\angle 1 \cong \angle 8$$

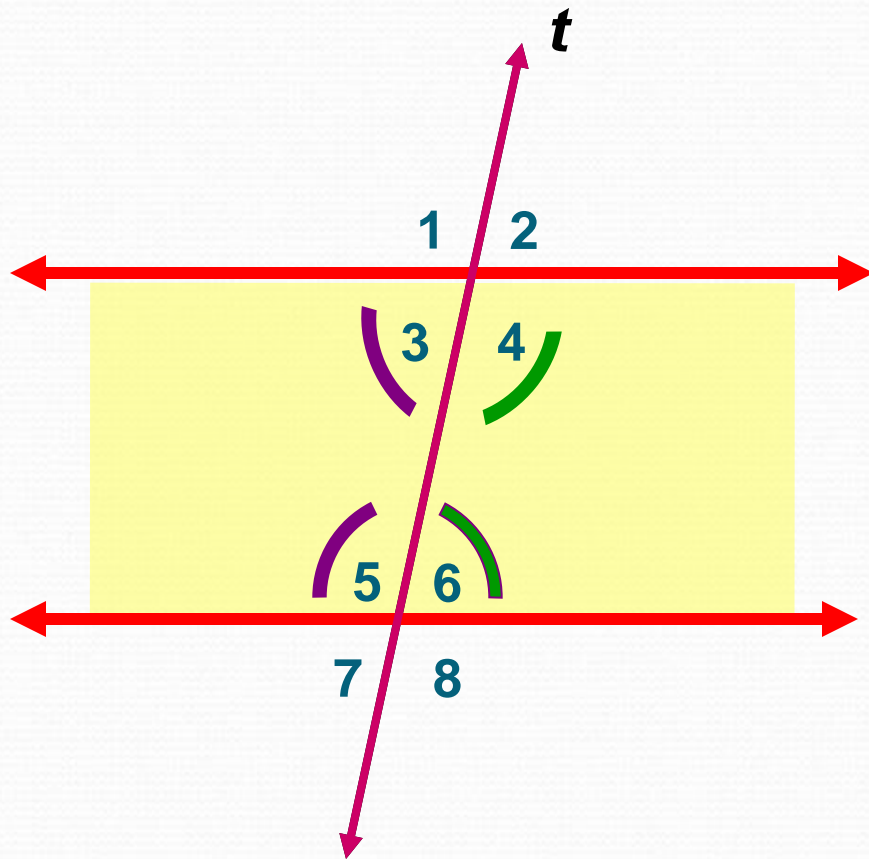
Alternate Exterior Angles

- Find the measures of the missing angles



Consecutive Interior Angles

- Two angles that lie between parallel lines on the same sides of the transversal

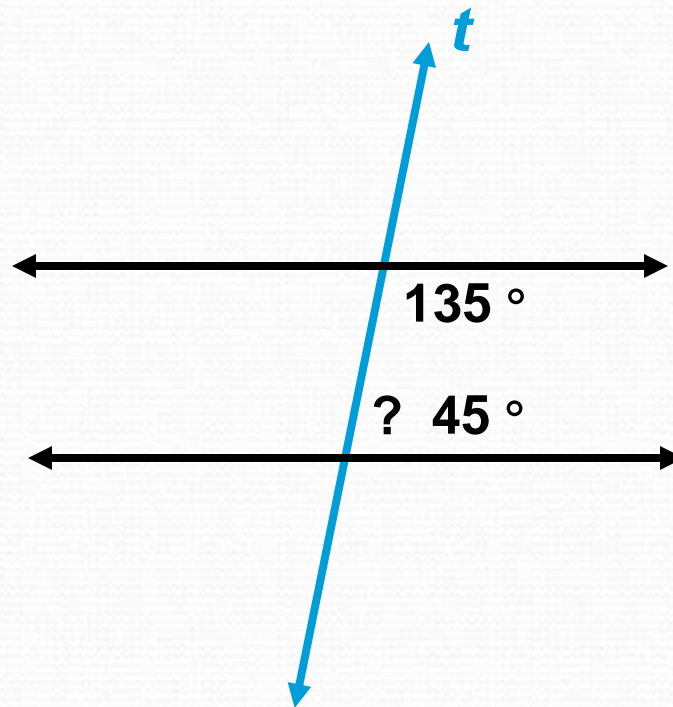


$$\angle 3 + \angle 5 = 180$$

$$\angle 4 + \angle 6 = 180$$

Consecutive Interior Angles

- Find the measures of the missing angles



$$180 - 135$$

THANK YOU