

## Geometry Notes

# Parallel Lines and Transversals

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## CONGRUENT:

\*\*If two parallel lines are cut by a transversal, then the following pairs of angles are **congruent**.

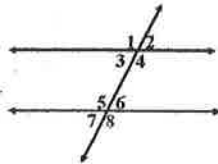
1. \_\_\_\_\_ angles
2. \_\_\_\_\_ angles
3. \_\_\_\_\_ angles
4. \_\_\_\_\_ angles

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## Vertical Angles

\*\*Two congruent angles that are opposite/across from each other.

\*\*Examples:



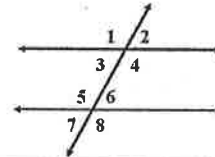
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## Corresponding Angles

\*\*Two congruent angles that occupy corresponding positions.

\*\*Examples:

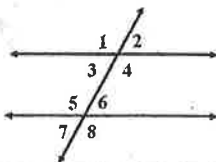


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## Alternate Interior Angles

\*\*Two congruent angles that lie between parallel lines on opposite sides of the transversal (but not a linear pair).

\*\*Examples:

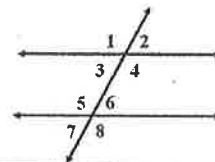


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## Alternate Exterior Angles

\*\*Two congruent angles that lie outside parallel lines on opposite sides of the transversal.

\*\*Examples:



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## SUPPLEMENTARY:

\*\*If two parallel lines are cut by a transversal, then the following pairs of angles are **supplementary**, (sum =  $180^\circ$ )

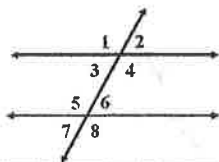
1. \_\_\_\_\_ angles
2. \_\_\_\_\_ angles
3. \_\_\_\_\_ angles

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## Linear Pair

\*\*Two supplementary angles that form a line.

\*\*Examples:



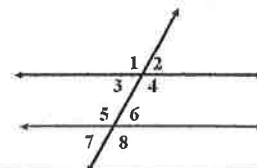
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## Consecutive Interior Angles

\*\*Two supplementary angles that lie between parallel lines on the same sides of the transversal.

\*\*Also known as Same Side Interior Angles.

\*\*Examples:



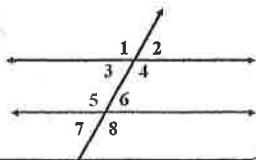
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## Consecutive Exterior Angles

\*\*Two supplementary angles that lie outside parallel lines on the same sides of the transversal.

\*\*Also known as Same Side Exterior Angles.

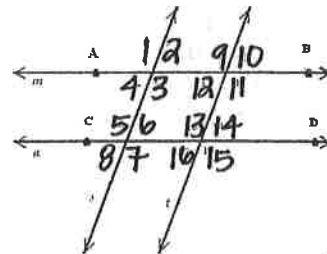
\*\*Examples:



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Practice: Identify the name for each angle pair given.

- $\angle 1$  and  $\angle 5$
- $\angle 2$  and  $\angle 9$
- $\angle 3$  and  $\angle 5$
- $\angle 15$  and  $\angle 8$
- $\angle 9$  and  $\angle 15$
- $\angle 6$  and  $\angle 16$
- $\angle 8$  and  $\angle 6$
- $\angle 12$  and  $\angle 3$
- $\angle 6$  and  $\angle 7$



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