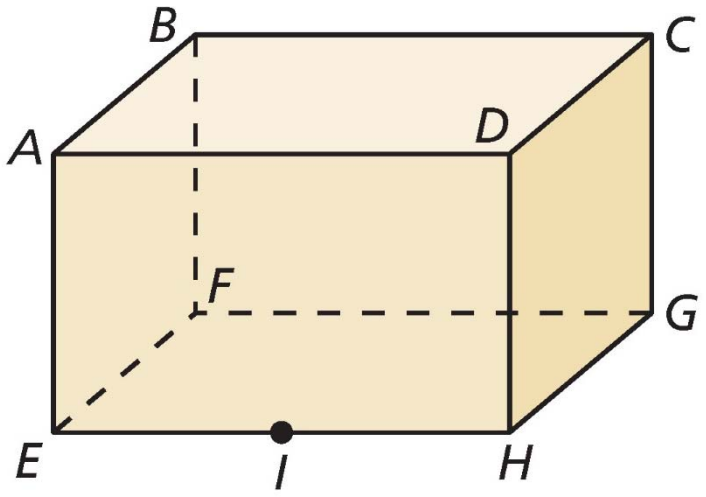
3.1

LINES AND ANGLES

- **Identify Lines and Planes**
- **Identify Parallel and Perpendicular Lines**
- **Identify pairs of angles formed by transversals**

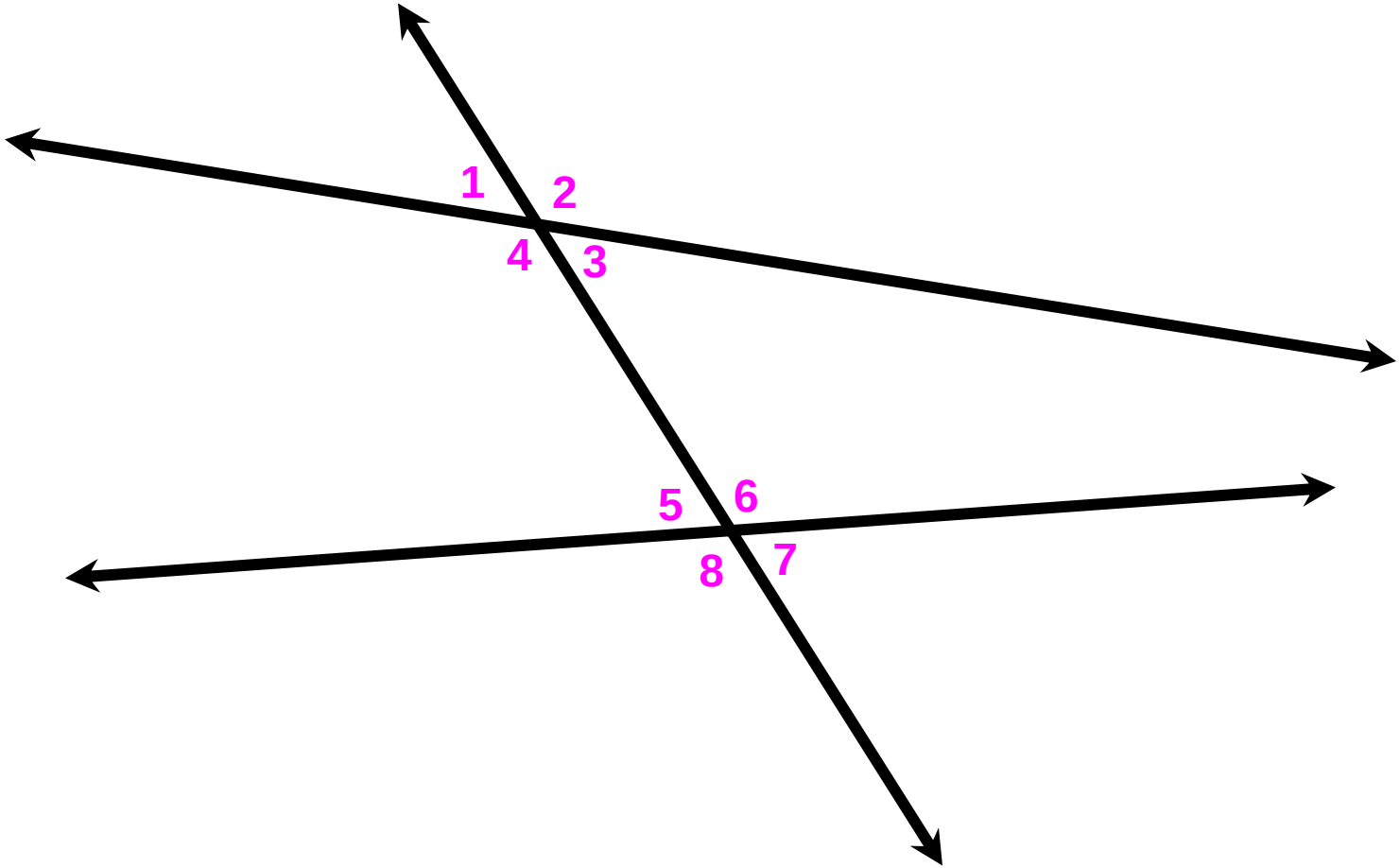
Pairs of Lines Revisited

Classify each of the following pairs of lines as parallel, intersecting, same line, or skew.



Pair of Lines	Classification
a. $\overleftrightarrow{AB}$ and $\overleftrightarrow{BC}$	
b. $\overleftrightarrow{AD}$ and $\overleftrightarrow{BC}$	
c. $\overleftrightarrow{EI}$ and $\overleftrightarrow{IH}$	
d. $\overleftrightarrow{BF}$ and $\overleftrightarrow{EH}$	
e. $\overleftrightarrow{EF}$ and $\overleftrightarrow{CG}$	
f. $\overleftrightarrow{AB}$ and $\overleftrightarrow{GH}$	

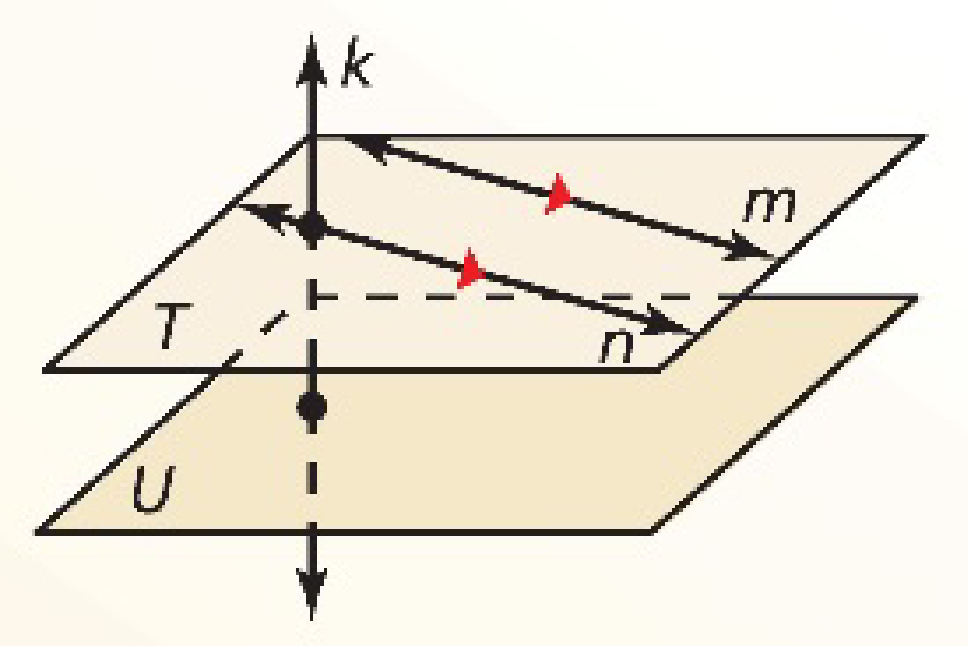
Pairs of Angles Revisited



Identify all the pairs of vertical angles:

Identify 3 linear pairs of angles:

Bringing it together



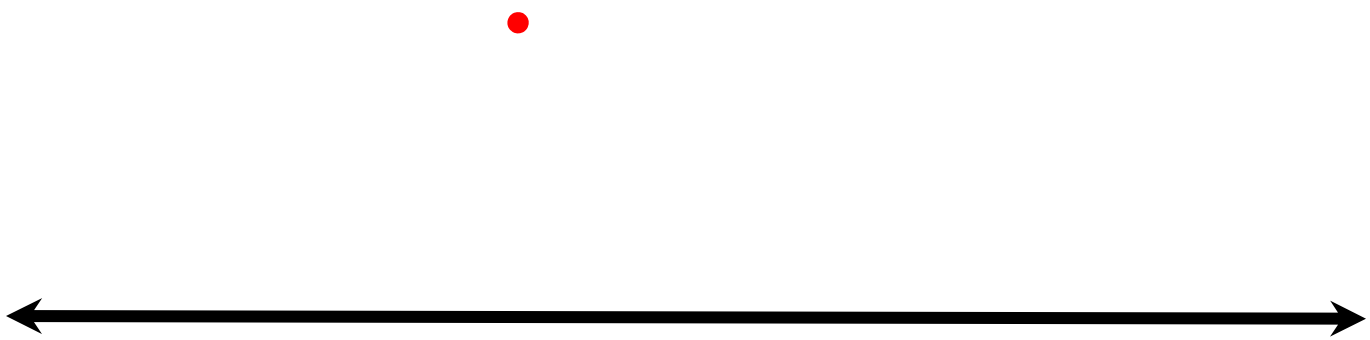
Lines m and n are

Lines m and k are

Planes T and U are

Lines k and n are

Parallel and Perpendicular Lines

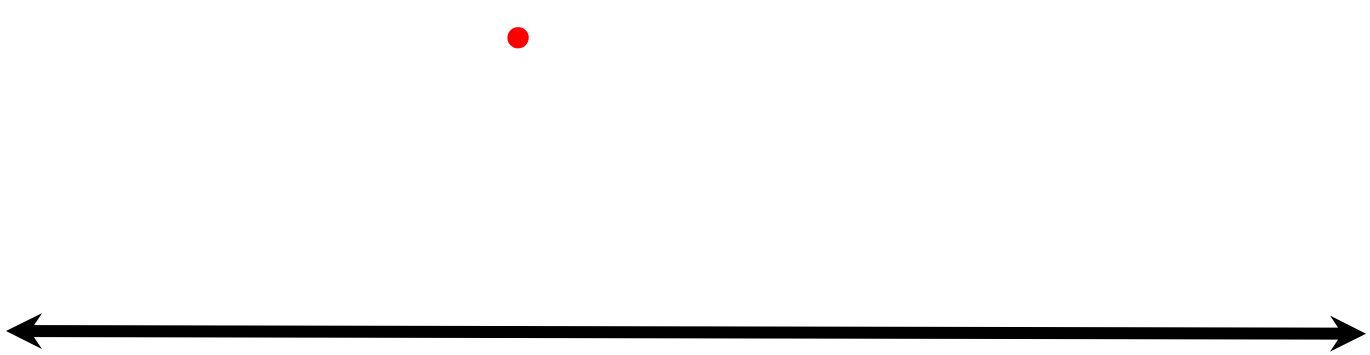


- **This line and point are on the same plane.**
- **The point is not on the line.**

- **How many lines can go through the point and be parallel to the given line?**

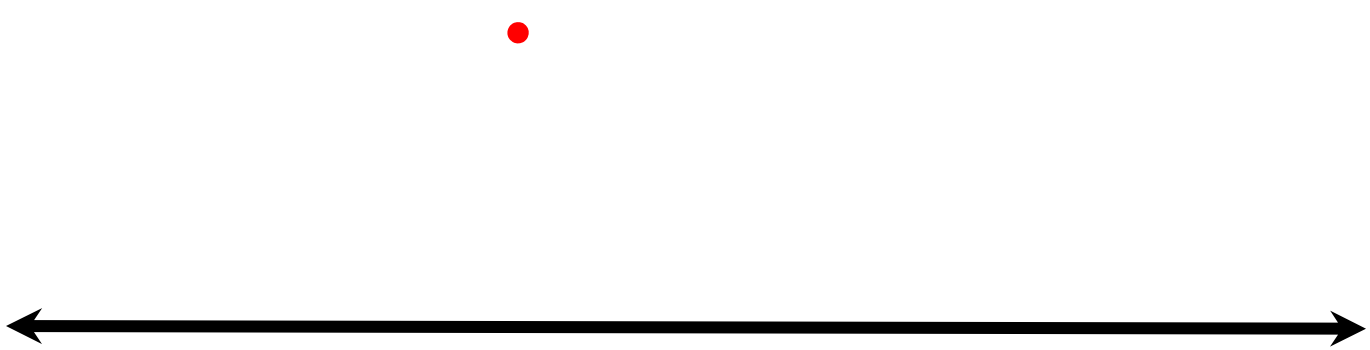
- **Do we accept this as true? Can we prove it with previous knowledge?**

Parallel Postulate



If there is a _____, then there is exactly _____through the point and _____to the given line.

Parallel and Perpendicular Lines

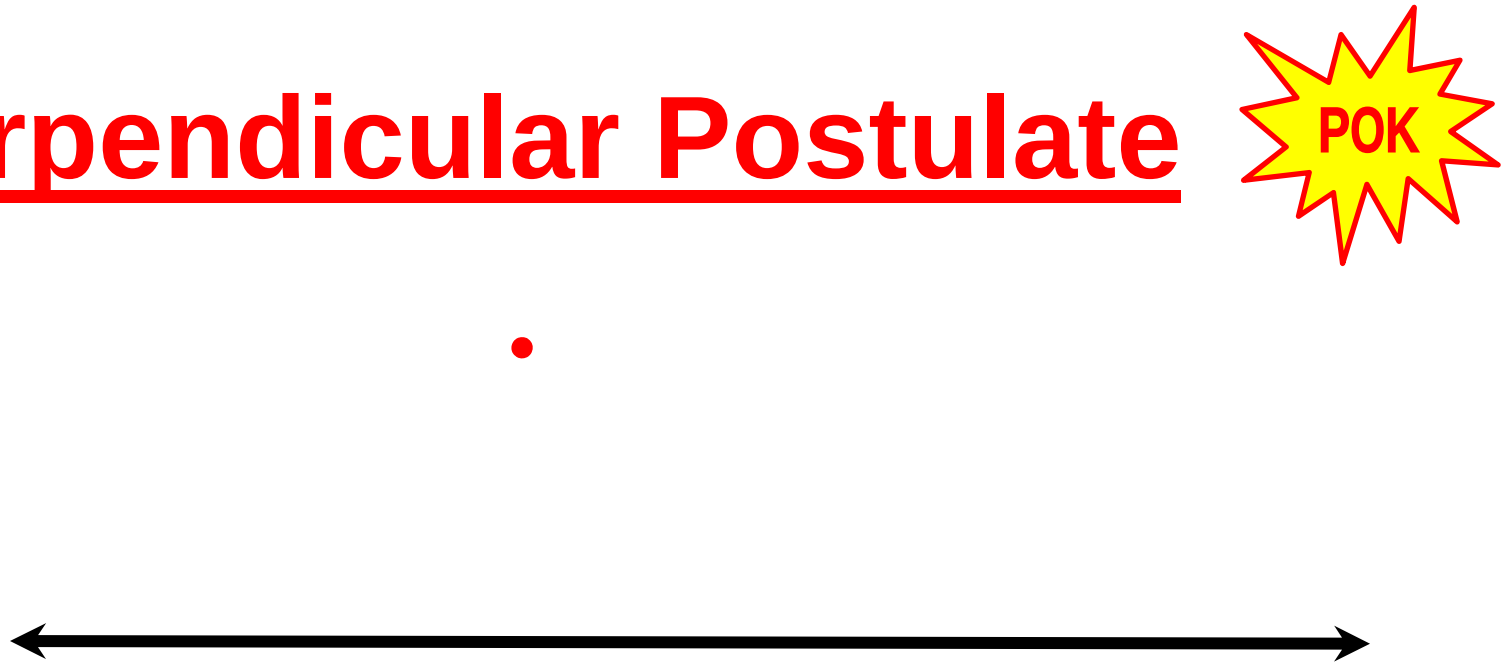


- **This line and point are on the same plane.**
- **The point is not on the line.**

- **How many lines can go through the point and be perpendicular to the given line?**

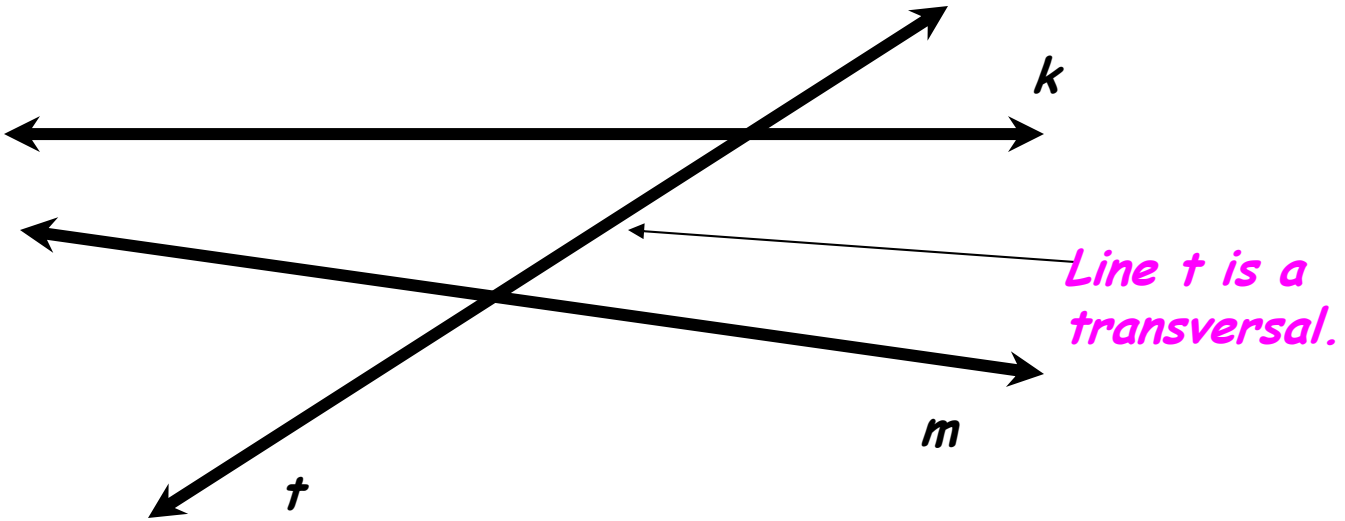
- **Do we accept this as true? Can we prove it with previous knowledge?**

Perpendicular Postulate



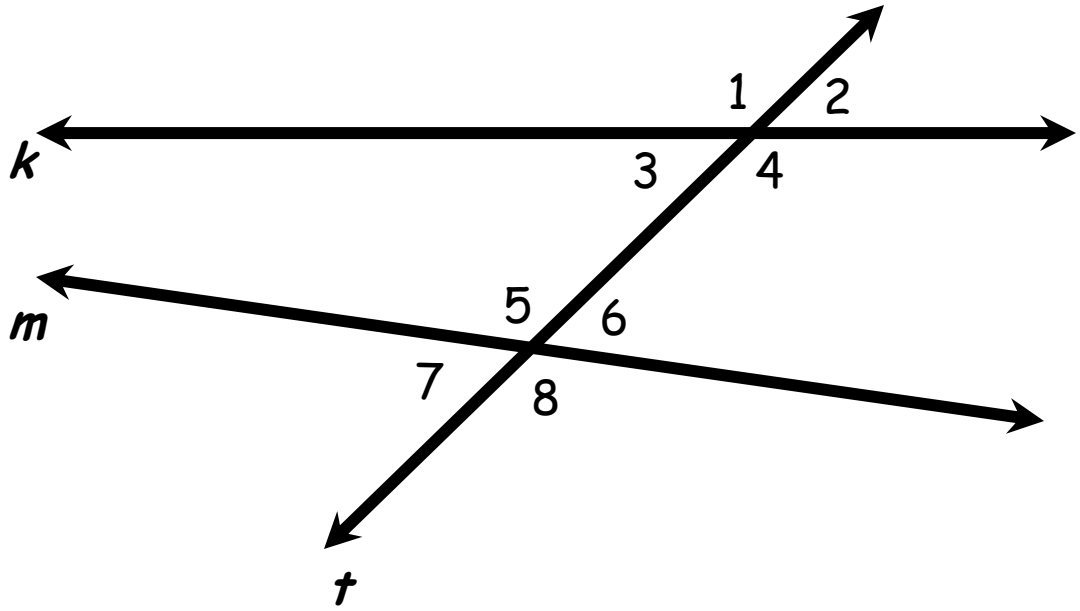
If there is a _____, then there is exactly _____through the point and _____to the given line.

What is a transversal?



A line that _____ two or more lines in different points.

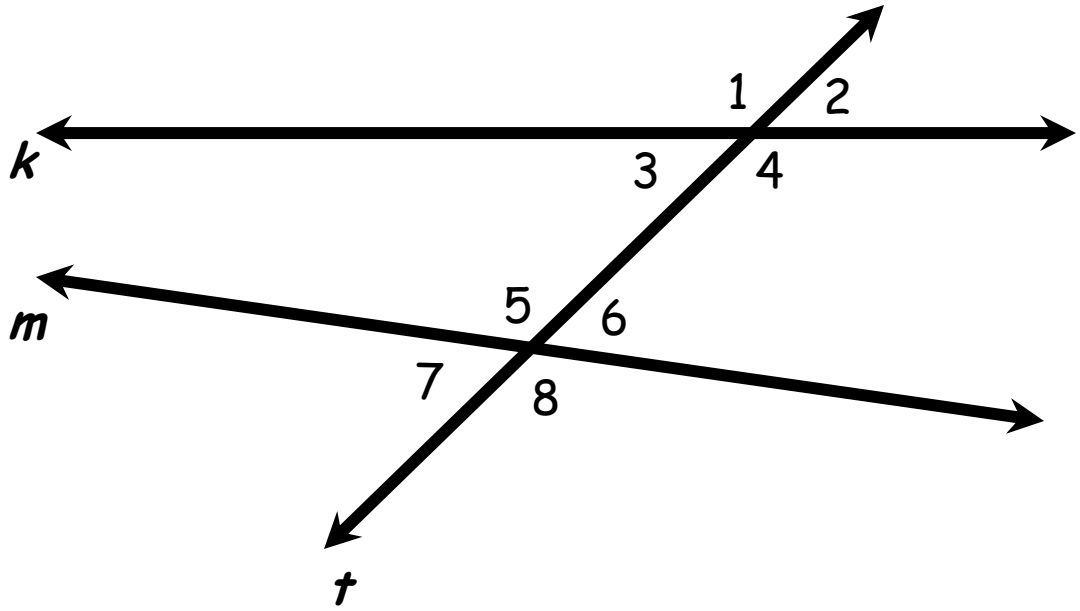
Corresponding Angles



Helpful Letter

Corresponding angles lie on the _____ of the transversal and in _____ positions.

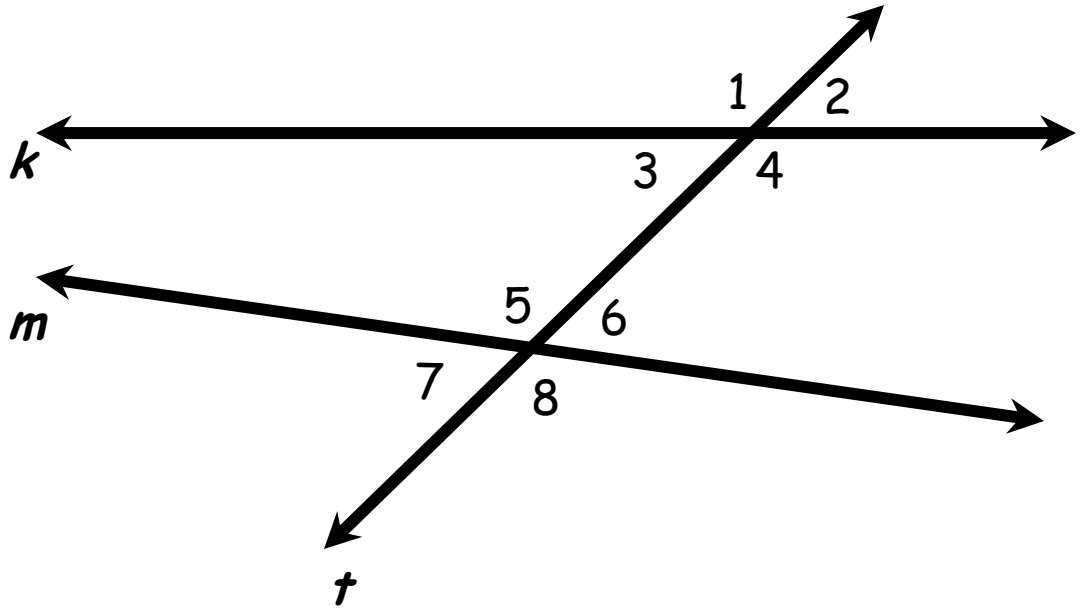
Alternate Interior Angles



Helpful Letter

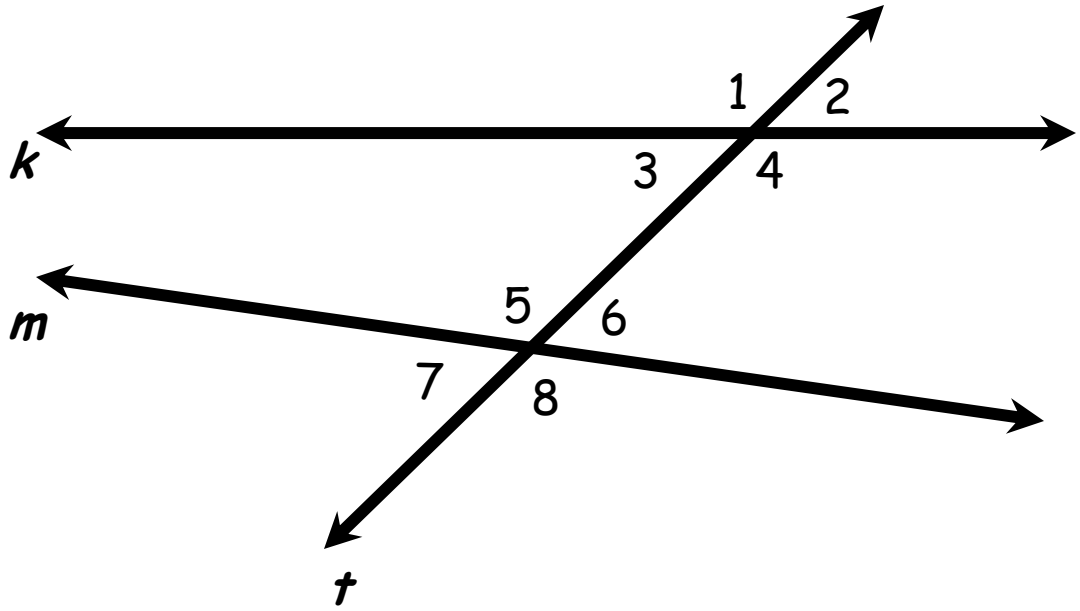
Alternate interior angles lie on the _____ of the transversal. They are _____ the two lines being crossed.

Alternate Exterior Angles



Alternate exterior angles lie on the _____ of the transversal. They are _____ the two lines being crossed.

Same Side Interior Angles



Helpful Letter

Same Side Interior Angles lie on the _____ of the transversal, and are _____ the two lines being crossed. (Consecutive Int. Angles)