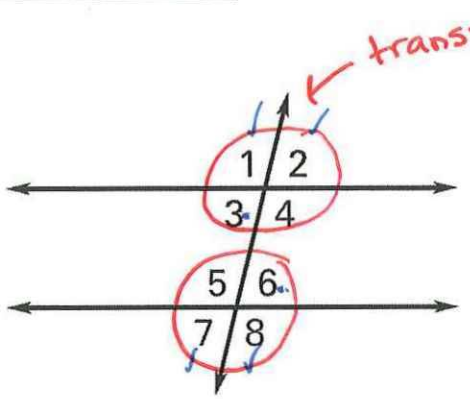
3-3 Angles Formed by Transversals

Objective: Identify angles formed by transversals

Transversal: a line that intersects 2 or more coplanar lines (same plane)



Interior angles – between 2 lines
∠3, ∠4, ∠5, ∠6

Exterior angles – outside 2 lines
∠1, ∠2, ∠7, ∠8

Corresponding angles:
angles that occupy the same position
∠2 & ∠6 ∠1 & ∠5
∠3 & ∠7 ∠4 & ∠8

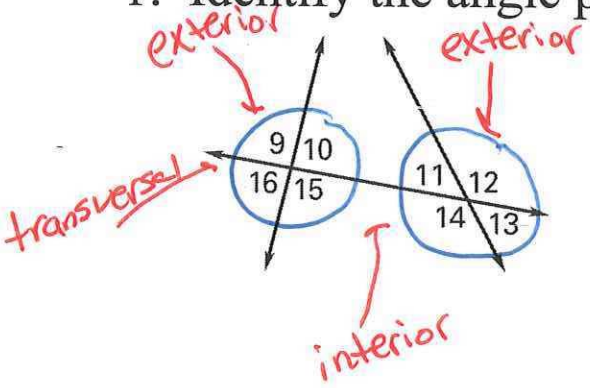
Alternate interior angles:
interior angles on opp sides of transversal
∠3 & ∠6
∠4 & ∠5

Alternate exterior angles:
outside angles on opp sides of transversal
∠2 & ∠7
∠1 & ∠8

Same-side interior angles:
angles inside on same side of transversal
∠3 & ∠5
∠4 & ∠6

Examples:

1. Identify the angle pairs above for the picture.



Corresponding:

$\angle 10 \cong \angle 12$ $\angle 16 \cong \angle 14$

$\angle 9 \cong \angle 11$ $\angle 15 \cong \angle 13$

Alternate interior:

$\angle 10 \cong \angle 14$

$\angle 15 \cong \angle 11$

Alternate exterior:

$\angle 9 \cong \angle 13$

$\angle 16 \cong \angle 12$

Same-side interior:

$\angle 10 \cong \angle 11$

$\angle 15 \cong \angle 14$

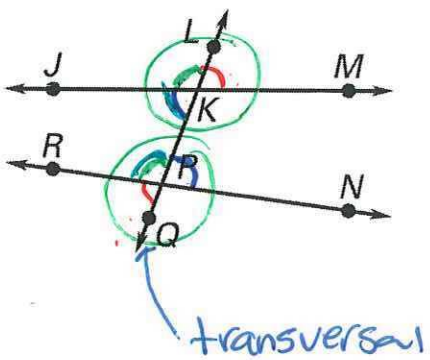
2. Use the diagram to describe the relationship between the angles.

<JKP and <KPN

Alt interior

<LKM and <QPR

Alt Exterior



<JKL and <RPK

corresponding angles

<JKP and <KPR

Same side interior

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