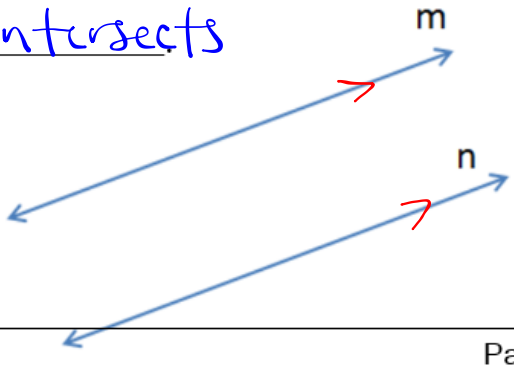
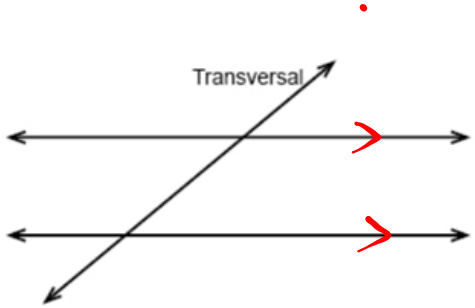
Learning Card # _____ | Name:

Lines, line segments, or rays that never intersects



A transversal is a line that cuts through parallel lines.

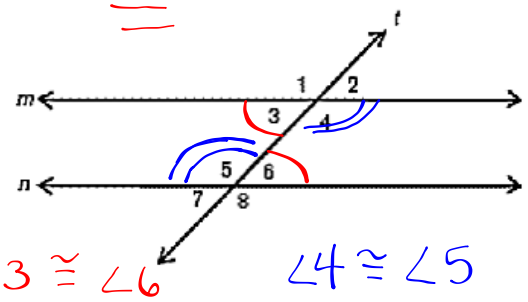


Parallel Lines

Learning Card # _____ | Name:

Definition:
Two angles in the inside of the parallel lines and on opposite sides.

$\cong$



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

Solve for x:

alt.

∠ABC and ∠XYZ are interior angles.

∠ABC = $6x - 23$ $54 - 23 = 31$

∠XYZ = $3x + 4$ $27 + 4 = 31$

$6x - 23 = 3x + 4$

$-3x \quad +23 \quad -3x \quad +23$

$3x = 27$

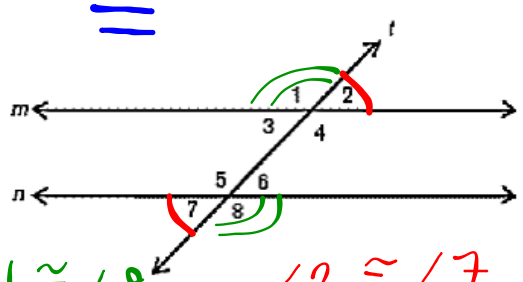
$x = 9$

Alternate Interior Angles

Learning Card # _____ | Name:

Definition:
Two angles in the outside of the parallel lines and on opposite sides.

≅



∠1 ≅ ∠8 ∠2 ≅ ∠7

alt.

∠ABC and ∠XYZ are exterior angles.

∠ABC = 14x + 8

∠XYZ = 4x + 28

28 + 8 = 36°

8 + 28 = 36°

$14x + 8 = 4x + 28$

$-4x \quad -8 \quad -4x \quad -8$

$10x = 20$

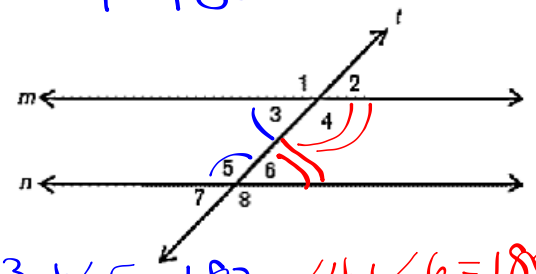
$x = 2$

Alternate Exterior Angles

Learning Card # _____ | Name:

Definition:
Two angles in the inside of the parallel lines and on same sides.

+ 180



∠3 + ∠5 = 180 ∠4 + ∠6 = 180

∠ABC and ∠XYZ are same side interior angles.

∠ABC = 5x + 4

∠XYZ = 10x + 11

55 + 4 = 59°

110 + 11 = 121°

$5x + 4 + 10x + 11 = 180$

$15x + 15 = 180$

$-15 \quad -15$

$15x = 165$

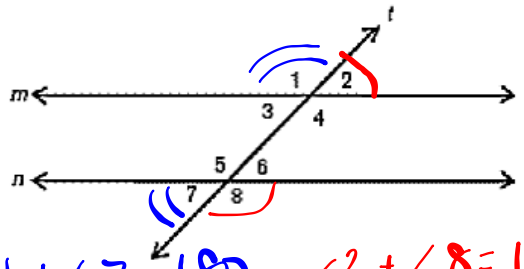
$x = 11$

Consecutive (Same-Side) Interior Angles

Learning Card # _____	Name:

Definition:
Two angles in the outside of the parallel lines and on same sides.

+ 180



∠1 + ∠7 = 180 ∠2 + ∠8 = 180

∠ABC and ∠XYZ are same side exterior angles.

∠ABC = 4x + 23 80 + 23 = 103

∠XYZ = 2x + 37 40 + 37 = 77

4x + 23 + 2x + 37 = 180

6x + 60 = 180

-60 -60

6x = 120

x = 20

Consecutive (Same-Side) Exterior Angles

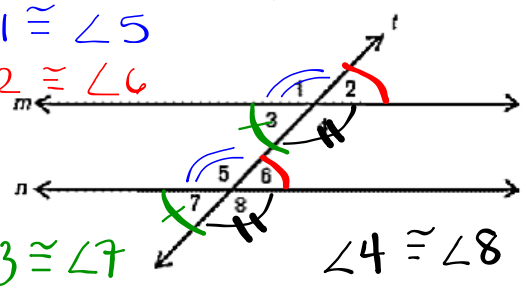
Learning Card # _____	Name:

Definition:

Two angles that lie in the same plane.

∠1 ≅ ∠5

∠2 ≅ ∠6



∠3 ≅ ∠7 ∠4 ≅ ∠8

∠ABC and ∠XYZ are corresponding angles.

∠ABC = 2x - 5 10 - 5 = 5

∠XYZ = 3x - 10 15 - 10 = 5

2x - 5 = 3x - 10

-2x +10 -2x +10

5 = x

Corresponding Angles