(12)

$7y + 5 = 9y - 17$

$-7y \quad +17 \quad -7y \quad +17$

$22 = 2y$

$11 = y$

$7(11)+5$

82

$82 = 9(11) - 17$

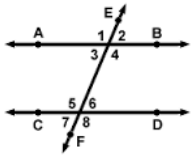
$4x+25$

$4x + 25 + 82 = 180$

Name_____Period____

Unit 9 Day 2

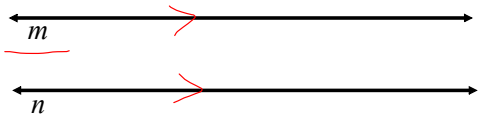
Transversals



I can Recognize Relationships created by transversals.

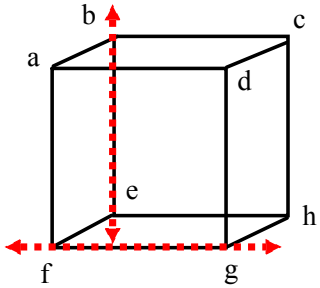
Identify Pairs of Lines and Angles

Parallel Lines: Two lines that do not intersect and are coplanar.

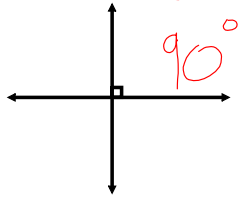


m // n

Skew Lines: Two lines that do not intersect and are not coplanar.

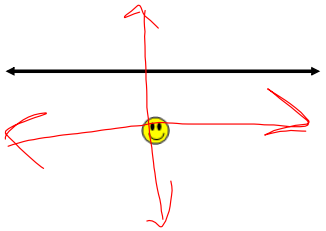


Perpendicular Lines: Two lines that intersect to form a right angle.

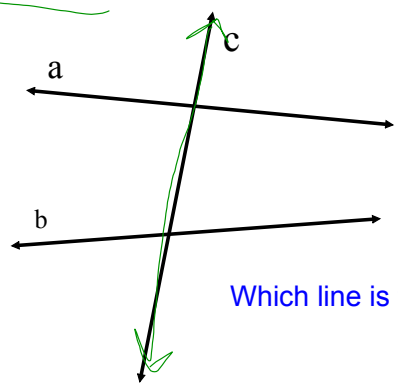


If there is a line and a point not on the line, then how many lines can be drawn through the point parallel to the line? Perpendicular to the line?

1 1



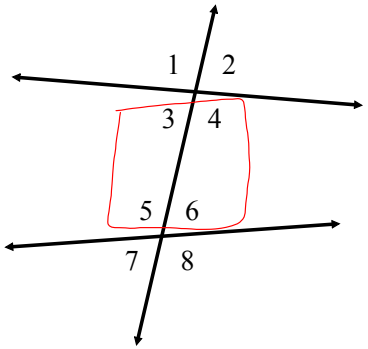
Transversals A line that intersects two or more coplanar lines.



Which line is the transversal?

line c is a transversal

Angles Formed by Transversals



Alternate Interior Angles:

∠3 ≅ ∠6
∠4 ≅ ∠5

Alternate Exterior Angles:

∠1 ≅ ∠8
∠2 ≅ ∠7

Corresponding Angles:

∠1 ≅ ∠5 ∠2 ≅ ∠6
∠7 ≅ ∠3 ∠4 ≅ ∠8

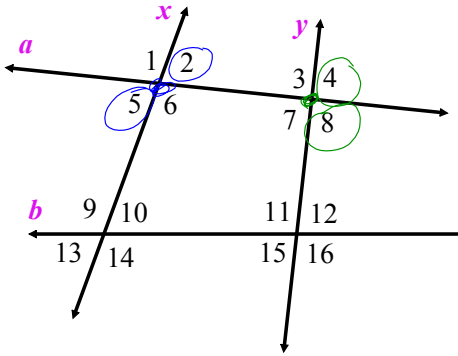
Consecutive Interior Angles:

∠4 ≅ ∠6
∠3 ≅ ∠5

http://www.mathsisfun.com/flash.php?path=%2Fgeometry/images/parallel.swf&w=663&h=357&col=%23ffffff&title=Parallel+Lines%2C+and+Pairs+of+Angles

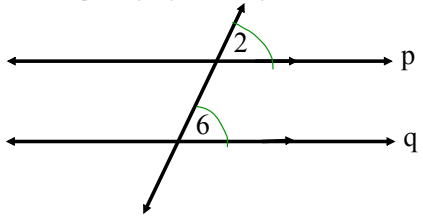
- Transversal
- Parallel Lines
- Vertical Angles
- Corresponding Angles
- Alternate Interior Angles
- Alternate Exterior Angles
- Consecutive Interior Angles

Name the transversal then, classify the pair of numbered angles.



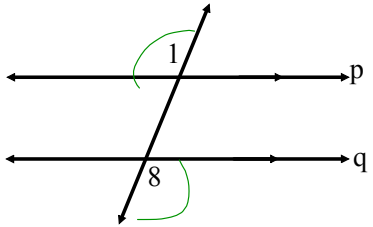
Angles	Transversal	Classify
∠1 and ∠3	a	corr.
∠5 and ∠10	x	Alt. Int.
∠12 and ∠13	b	Alt. ext.
∠6 and ∠3	a	Alt. Int.
∠4 and ∠8	—	Sup.
∠2 and ∠5	—	Con.
		Vertical

Corresponding Angles Postulate: If two parallel lines are cut by a transversal, then the pairs of corresponding angles are congruent.



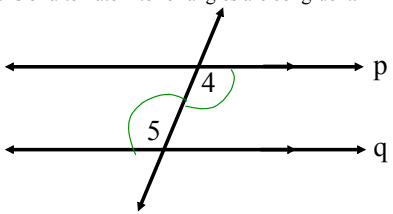
$\angle 2 \cong \angle 6$

Alternate Exterior Angles Theorem: If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles are congruent.



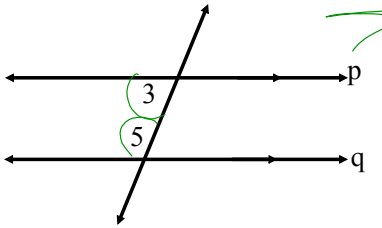
$\angle 1 \cong \angle 8$

Alternate Interior Angles Theorem If two parallel lines are cut by a transversal, then the pairs of alternate interior angles are congruent.



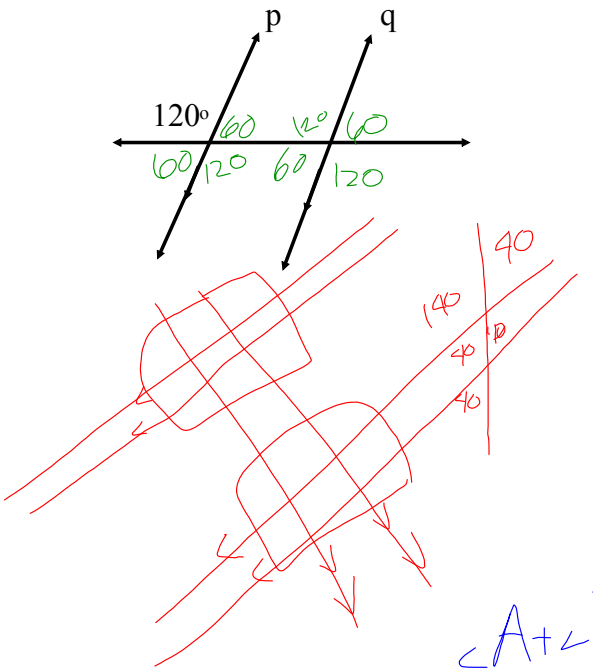
$\angle 4 \cong \angle 5$

Consecutive Interior Angles Theorem: If two parallel lines are cut by a transversal, then the pairs of consecutive interior angles are supplementary.



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

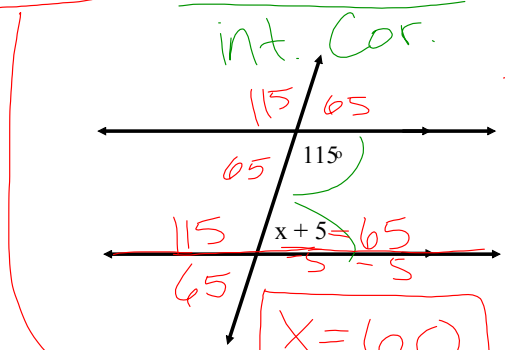
Lines p and q are parallel. Find the measure of all other angles.



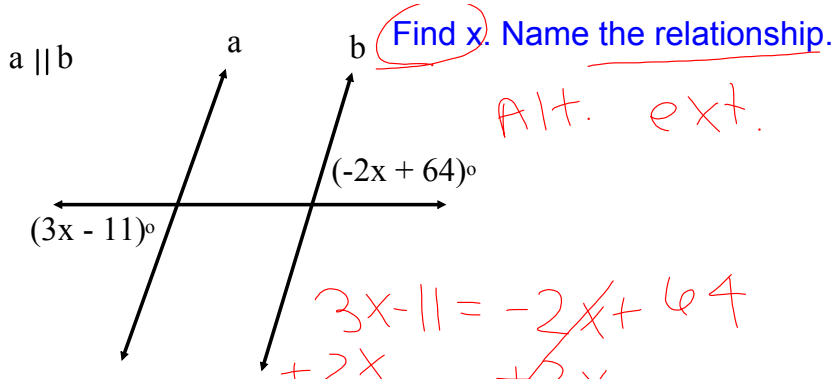
$\angle A + \angle B + \angle C = 180$

80

Find the value of x. Also, name the relationship.



180
-115
65



Find x. Name the relationship.

Alt. ext.

$3x - 11 = -2x + 64$

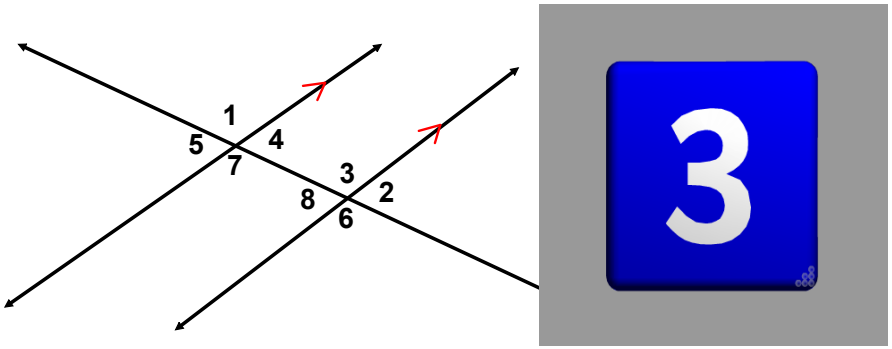
$+2x \quad +2x$

$5x - 11 = 64$

$+11 \quad +11$

$5x = 75$

$x = 15$



Roll the blue cube then, name an angle that is **congruent** to the angle rolled and their **relationship**.

Pull