Section 3.1 – Parallel Lines and Transversals

A _____ is a line that   **Ex:**
intersects two or more coplanar lines.

There are _____ names given to pairs of angles formed by the intersection of two lines and a transversal. If the two lines being intersected by the transversal are parallel, then the four angle pairs have special properties.

Corresponding Angles Postulate

Words If two parallel lines are cut by a
        transversal, then corresponding
        angles are equal in measure.

Symbols If j ‖ k, then the following are true:

        _____   _____

        _____   _____

Alternate Exterior Angles Theorem

Words If two parallel lines are cut by a
        transversal, then alternate exterior
        angles are equal in measure.

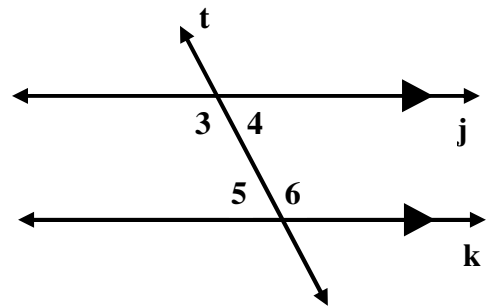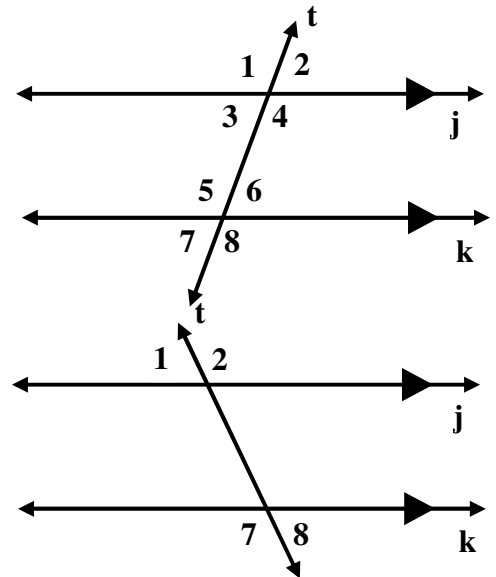**Symbols** If j ‖ k, then the following are true:

        _____   _____

Alternate Interior Angles Theorem

Words If two parallel lines are cut by a
        transversal, then alternate interior
        angles are equal in measure.

Symbols If j ‖ k, then the following are true:
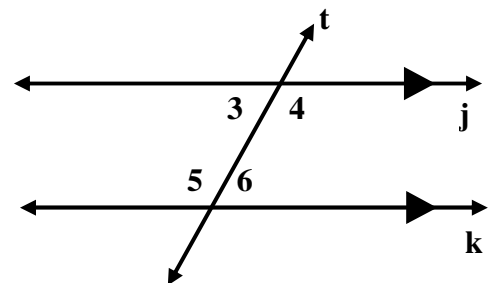
        _____   _____

Consecutive Interior Angles Theorem

Words If two parallel lines are cut by a
        transversal, then consecutive interior
        angles are supplementary.

Symbols If j ‖ k, then the following are true:

        _____

        _____

If there is _____ for a pair of angles, then they are _____.

Ex 1:
State the name for the given pair of angles and their mathematical relationship.

a) $\angle 3$ and $\angle 5$
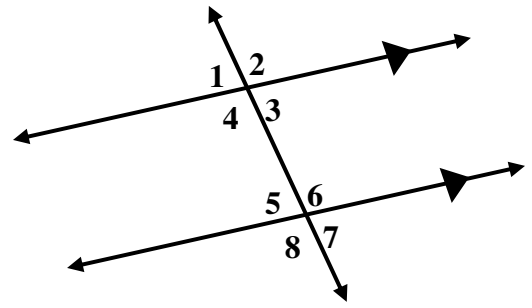
b) $\angle 2$ and $\angle 6$

c) $\angle 4$ and $\angle 5$

d) $\angle 1$ and $\angle 3$

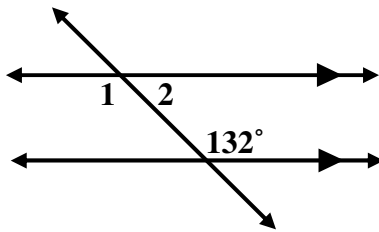**e)** $\angle 1$ and $\angle 7$
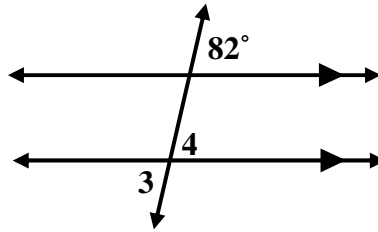
f) $\angle 7$ and $\angle 8$

g) $\angle 4$ and $\angle 7$
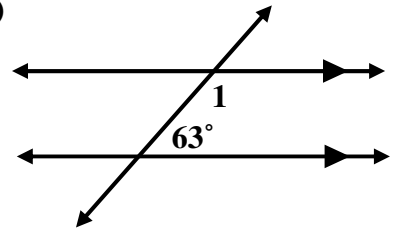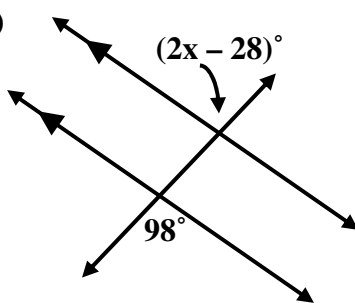
Ex 2:
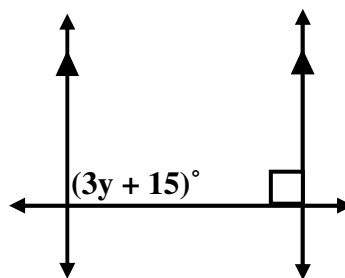Find the measure of the numbered angle.

a)

b)

c)

Ex 3:
Find the value of the variable.

a)

b)

c)