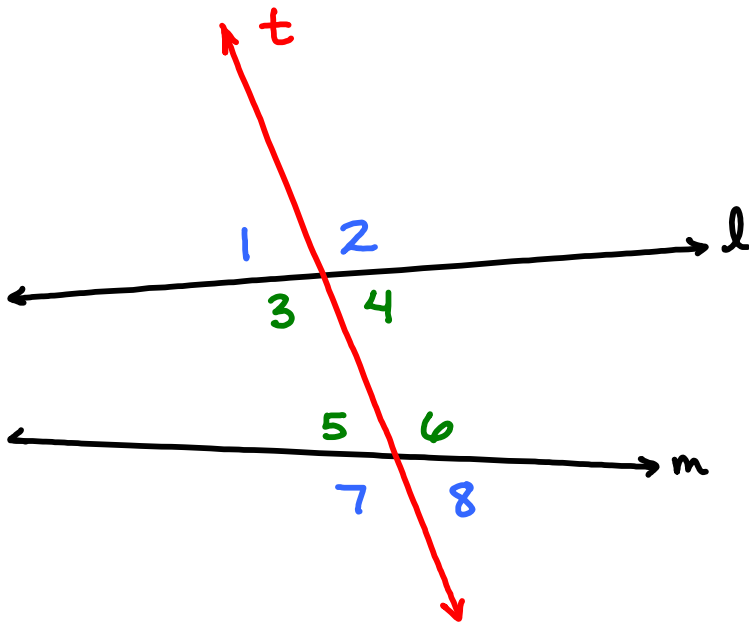


Chapter Review



Parallel Lines and Transversals

- 1. Parallel lines are lines that are coplanar lines that never intersect*
- 2. Skew lines are non-coplanar lines; they never intersect and are not parallel*
- 3. A transversal is a line that intersects two or more coplanar lines*
- 4. The angles formed by a transversal and lines it intersects are classified as alternate interior angles, same-side interior angles and corresponding angles*



Alternate Interior Angles angles: 3 and 6, 4 and 5

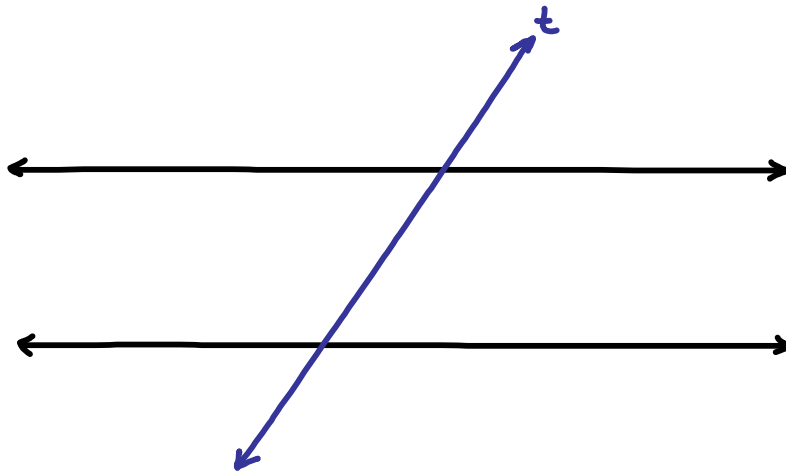
Same-side Interior Angles angles: 3 and 5, 4 and 6

Corresponding Angles angles: 1 and 5, 3 and 7, 8 and 4, 6 and 2

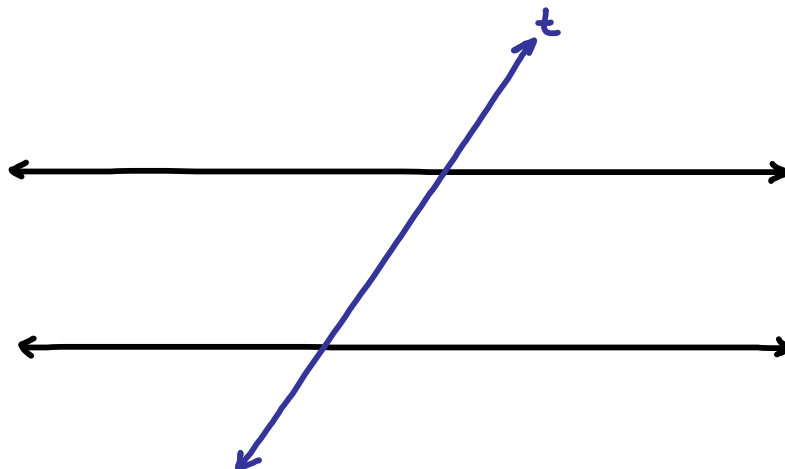


Properties of Parallel and Perpendicular Lines

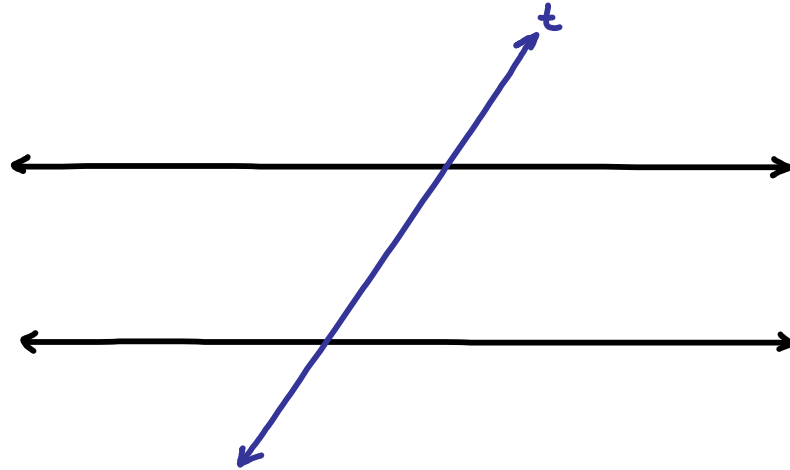
Postulate: if two parallel lines are cut by a transversal, then the corresponding angles are congruent



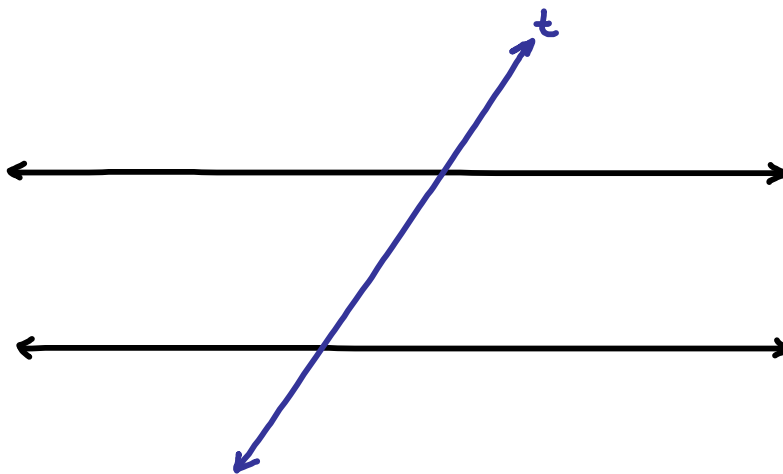
Postulate: if two lines are cut by a transversal and the corresponding angles are congruent, then the lines are parallel



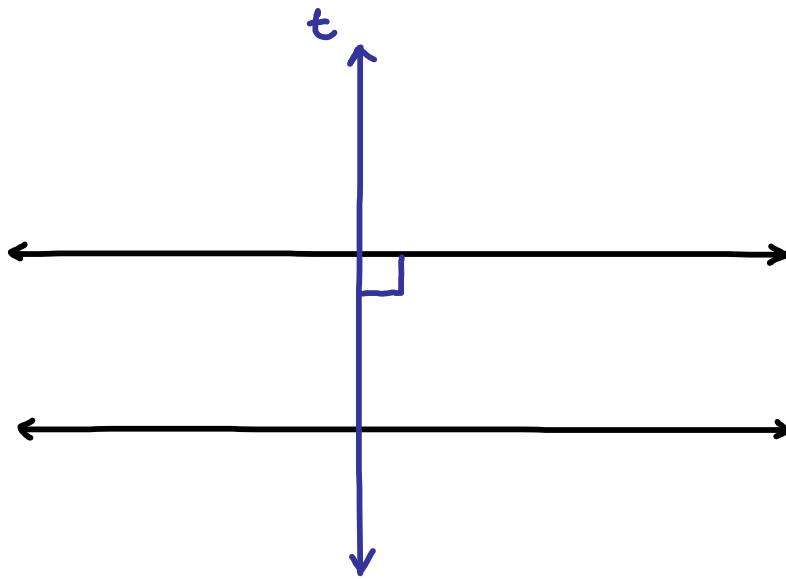
Theorem: if two parallel lines are cut by a transversal, then the alternate interior angles are congruent



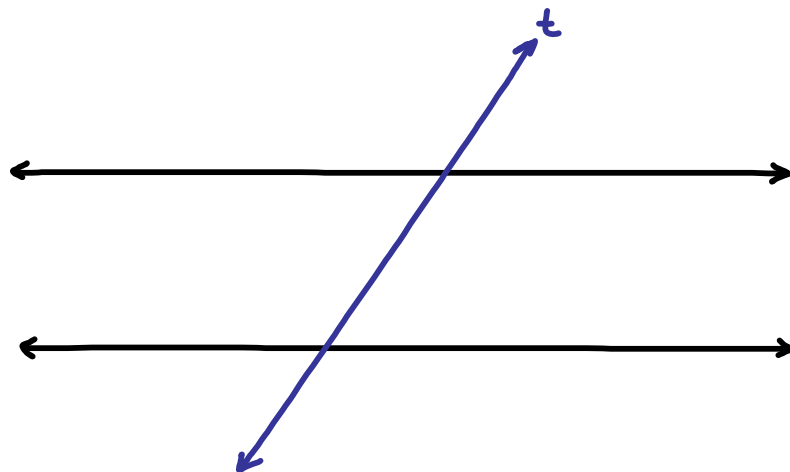
Theorem: if two parallel lines are cut by a transversal, then same-side interior angles are supplementary



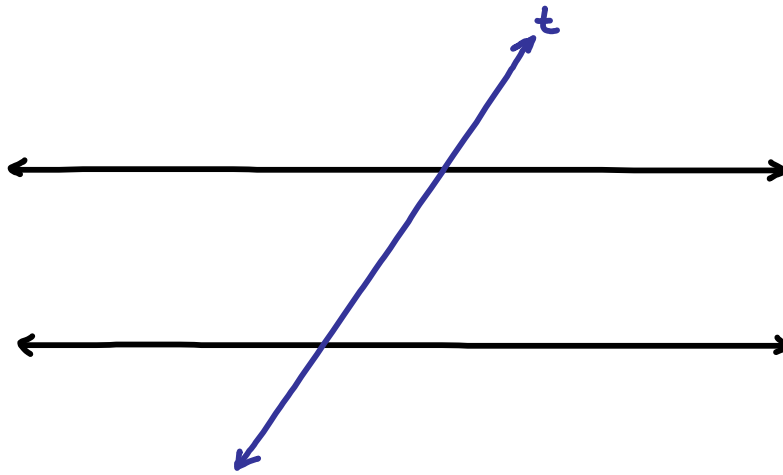
Theorem: if a transversal is perpendicular to one of two parallel lines, then it is also perpendicular to other line



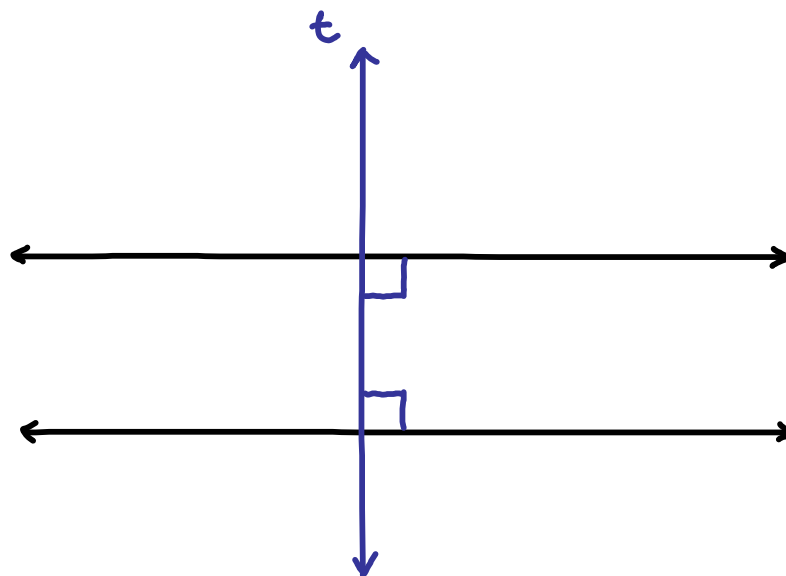
Theorem: if two lines are cut by a transversal and the alternate interior angles are congruent, then the lines are parallel



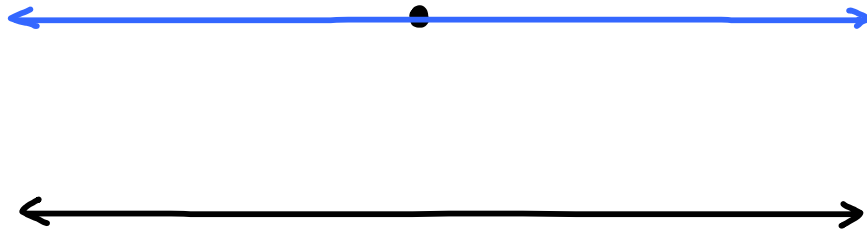
Theorem: if two lines are cut by a transversal and the same-side interior angles are supplementary, then the lines are parallel



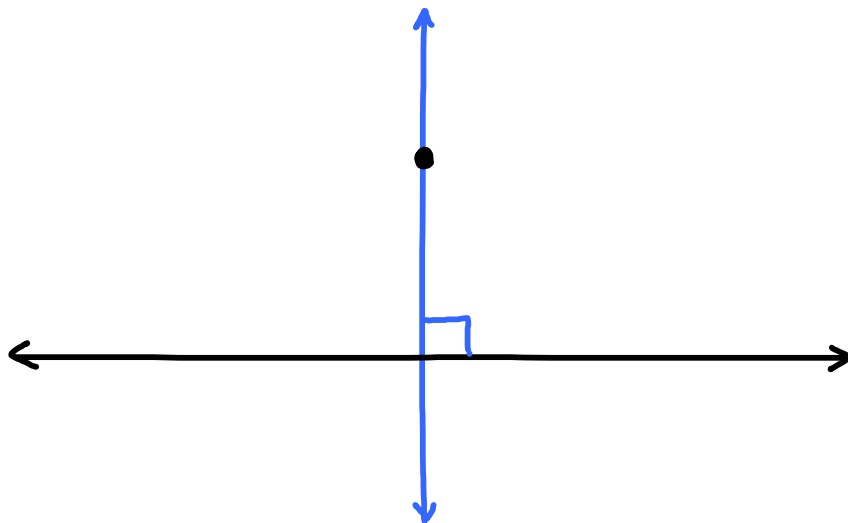
Theorem: in a plane two lines perpendicular to the same line are parallel



Theorem: through a point outside a line, there is exactly one line parallel to the given line



Theorem: through a point outside a line, there is exactly one line perpendicular to the given line





Proving Lines Parallel

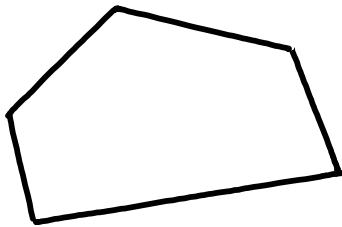
If we can demonstrate the following about two lines we can prove the lines parallel:

- 1. Corresponding angles are congruent*
- 2. Alternate interior angles are congruent*
- 3. Same-side interior angles are supplementary*
- 4. Both lines are in a plane and perpendicular to a third line*
- 5. Both lines are parallel to a third line*

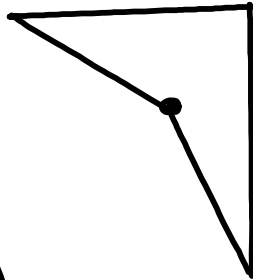


Introduction to Polygons

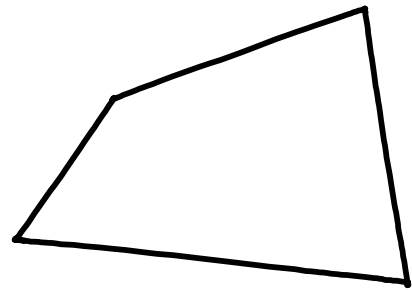
Types of polygons



convex



nonconvex

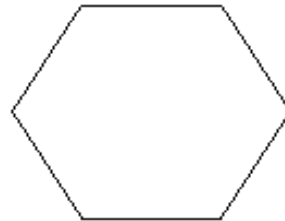
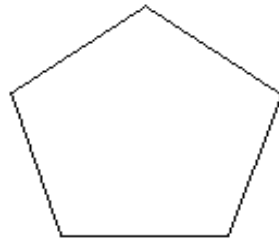
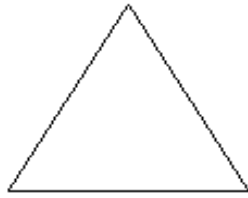


convex

<i>name</i>	<i>sides</i>
triangle	3
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
decagon	10

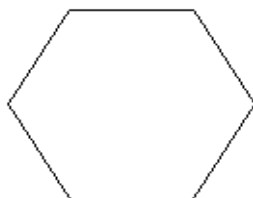
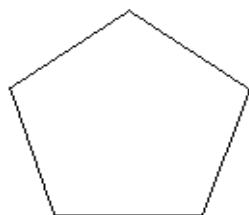
Regular polygon

equal angles, equal sides



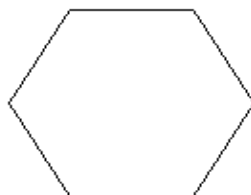
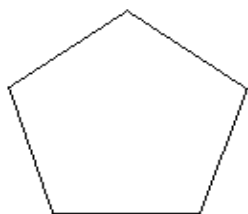
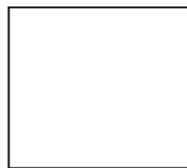
Convex polygon angle sums

Sum of the measures of the interior angles of a convex polygon with n -sides

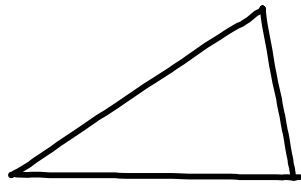


$$S = 180(n - 2)$$

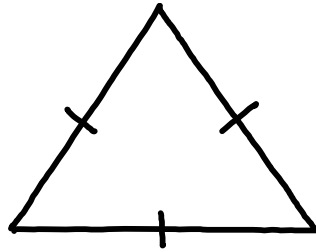
Sum of the measures of the exterior angles of a convex polygon is 360



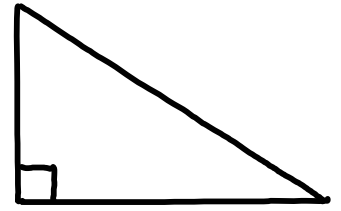
The simplest polygon- Triangles



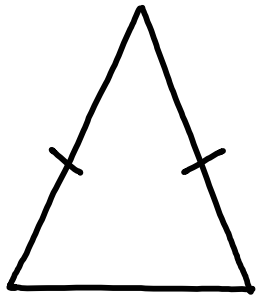
Scalene



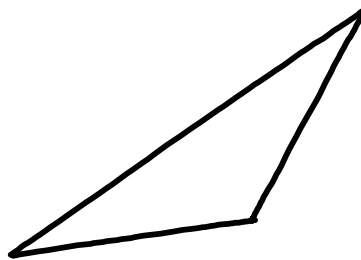
Equilateral



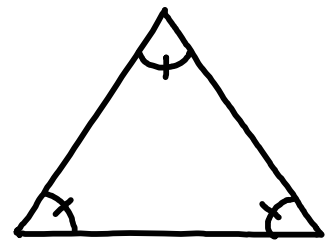
Right



Isosceles



Obtuse



Equiangular

The measure of an exterior angle of a triangle equals the sum of the measures of the two remote interior angles

