Parallel Lines

Types of Angles	Supplementary or Congruent?
alt. interior	$\cong$
alt. exterior	$\cong$
corresponding	$\cong$
vertical	$\cong$
sameside int.	supplementary
Same side ext.	supplementary

Types of Triangles

1. Scalene
2. Isosceles
3. Equilateral

How can determine the type of triangle if we know the coordinates of the vertices? use the distance formula to find the length of All 3 sides

Equation Setups for Properties:

Triangle Sum: $m\angle 1 + m\angle 2 + m\angle 3 = 180$

Congruent Angles: $m\angle 1 = m\angle 2$

Supplementary: $m\angle 1 + m\angle 2 = 180$

Exterior Angle Theorem: Ext. = I + I

* I = interior angle

Triangle Midsegment Theorem

What are the two things we know about midsegments?

- "Little" midsegment = $\frac{1}{2}$ ("Big" Third side)
- midsegment is parallel to the third side

Similar Triangles

What are the methods for proving them similar?

1. AA~
2. SAS~
3. SSS~

How do we determine which method to use?

Look at what we are given
Do we have sides, angles or both?

How do we set up our proportions to compare sides?

sides in order from smallest to largest

- every number on Top comes from the same triangle

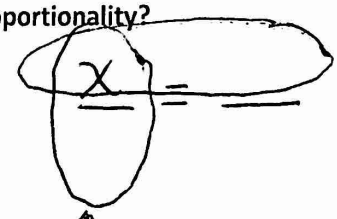
Are there angles that we can mark congruent? yes

- vertical angles
- alternate interior angles

Triangle Proportionality

Solve

How do we set up equations using triangle proportionality?



Same "spot" corresponding pieces

same side of the triangles

use prop. when there are parallel lines

* To solve, we cross multiply *

Problem Solving Steps

1. What are we trying to find?
2. What are we given?
3. What does that given information tell us?
4. What property should we use?

THEN....create an equation and solve!

Isosceles Triangles

If we know the following "marked" info, what else do we know?

Angles across from congruent sides are also congruent