|  |  |
| --- | --- |
| **Types of Angles** | **Supplementary or Congruent?** |
| Corresponding | Congruent |
| Alternate interior | Congruent |
| Alternate exterior | Congruent |
| Same side interior | Supplementary |
| Same side exterior | Supplementary |
| Vertical  | congruent |

**Parallel Lines**

**Types of Triangles**

1. **Isosceles**
2. **scalence**
3. **equilateral**

**How can determine the type of triangle if we know the coordinates of the vertices?**

**Equation Setups for Properties:**

**Triangle Midsegment Theorem**

**What are the two things we know about midsegments?**

* **Midsegment = half of longer side**
* **2 times midsegment=longer side**

**Triangle Sum: angle + angle + angle=180**

**Congruent Angles: angle1 = angle 2**

**Supplementary: angle +angle = 180**

**Exterior Angle Theorem: add two interior angles**

**Similar Triangles**

**Triangle Proportionality**

**How do we set up equations using triangle proportionality?**

**Everything in the first fraction should come from the same side of the triangle and everything along the top of the fractions should come from the same triangle.**

**Video for help:** [**https://tinyurl.com/tqk7a2w**](https://tinyurl.com/tqk7a2w)

**What are the methods for proving them similar?**

1. **SSS**
2. **AA**
3. **SAS**

**How do we determine which method to use?**

**Figure out what you are given---if you know 3 sides, then**

**Determine if they are proportional. If you know 2 angles,**

**Determine if they are equal. If you know 2 sides and 1**

**Angles, determine if the pairs of sides are proportional.**

**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!**

**How do we set up our proportions to compare sides?**

**Are there angles that we can mark congruent?**

* **Vertical angles can marked congruent**
* **Alternate angles can be congruent**

**Isosceles Triangles**

**If we know the following “marked” info, what else do we know?**

**If you know 2 sides are congruent, then the angles across from those sides are congruent.**

**If you know two angles are congruent, then the sides across from them are congruent.**