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| **Standard:** 1. **HSG-CO.C.9:** Prove theorems about lines and angles. *Theorems include: vertical angles are congruent.*
2. **HSG-CO.C.10:** Prove theorem about triangles. *Theorems include: measures of interior angles of a triangles sum to 180º, base angles of isosceles triangles are congruent.*
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| **Lesson Objectives SWBAT:** * Determine the missing angle by understanding that vertical angles are congruent or that two adjacent angle which form a straight line are supplementary.
* Creating an algebraic equation using triangle sum (all angles in a triangle sum equal 180*º*) to set-up and solve for missing angles by using Properties of Equalities.
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| **Mathematical Practices:**MP- 1 Make sense of problems and persevere in solving them.MP- 3 Construct viable arguments and critique the reasoning of others.MP- 5 Use appropriate tools strategically. |
| **Introduction/Warm-Up:**1. Complementary or Supplementary?
2. Write out the angle addition postulate using the names of these angles.
3. Find X
4. Find the measure of both angles.
 | **Closure:**Students will complete an exit ticket on determining the missing angle. Then students will be handed a worksheet for independent practice.  |
| **Activities:***What specific activities, investigations, problems, questions, or tasks will students be working on during the lesson? Consider TLAC strategies.*Student will complete the warm-up independently. We will then discuss the warm-up as a class. Using the information form the warm-up we will use the discuss slide 2 to 9. **Direct Instruction**Model the individual objective based on the standards. **-**  On slide 2, I will fill in the measures of the missing angles, followed by leading the student with guided questions about vertical angles a pairs of angles that form a straight lin. **Guided Practice**Students will lead me through problems dealing with the standards.**-** Students will Kagan “Time Pair Share” to discussing and applying the use of vertical angles being congruent and two adjacent angles that form a straight line are supplementary in be able to calculate the missing angle.**Independent Practice**Students will be given problems to work on independently and/or in small groups to practice mastery of the content.**-** Students will complete the Exit Ticket and Triangle Sum/Vertical Angle Worksheet |
| **Vocabulary, Connections, and Misconceptions:*** + Vertical angles, Triangle sum, congruency, equilateral triangle, Isosceles triangle and right triangle
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| **Materials:**Power point, paper, pencil, Calculators, and Kagan Strategies  | **Homework:**Students will complete the worksheet if not completed during class. |
| **Lesson Reflections:**I will know that the students understand the todays objective by them completing the exit ticket successfully. Students will then use their notes and exit ticket to complete a worksheet independently.  |