**Name: Kayla Anderson**

**Grade level / Course: High School Geometry**

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| STANDARD | Plan | Resources / Materials | Notes |
| **Learning Target:****Student Centered Language***Such as: “I will be able to explain… I can demonstrate correct…”* | **Standard**: [CCSS.MATH.CONTENT.HSG.SRT.B.4](http://www.corestandards.org/Math/Content/HSG/SRT/B/4/): Prove theorems about triangles. [CCSS.MATH.CONTENT.HSG.GPE.B.4](http://www.corestandards.org/Math/Content/HSG/GPE/B/4/): Use coordinates to prove simple geometric theorems algebraically.[CCSS.MATH.CONTENT.HSG.GPE.B.7](http://www.corestandards.org/Math/Content/HSG/GPE/B/7/): Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula**Objective**: “I can find the distance a point travels.”**Math Habits:** Make sense of problems and persevere in solving them. Recognizing patterns in order to understand when to use specific techniques (such as but not limited to Pythagorean theorem, distance formula, and trig functions). Pay close attention to precision. Use mathematical reasoning when working with partners. Reflect on their math /thinking in order to understand their answer, and explain their answer.  |
| **Instructional Sequence / Delivery and Engagement***Such As: Background knowledge, warm up, hook, lived experiences, prior lessons, DOK, checks for understanding* | Up until this point, students would have been working on recognizing patterns in order to generalize in our math skills. Student will begin the day by finding their names/partners on the smart board. **Background knowledge-Warm-Up:** The students will enter the room, grab a problem (green) sitting on my desk and get any notes out they may need. I will introduce the lesson (see lesson/activity) and then announce that the first two minutes, students will be “brain dumping” onto their problem sheet. This is a term that they are used to, and essentially gives them a chance to think independently in order to build confidence, try different ideas, and think about how this problem relates to math, and mathematical concepts they have been working on. This is also a time I will be circulating the class checking for understanding, meaning I am looking for the any type of potential set up/interpretation of the problem as well as their attention to patterns and precision. **Transition**: Students will be asked to stop, and I will them ask specific people to share if I saw something really great, or maybe a common misconception that was happening while circulating around the room. I will then give students the directions again (see lesson/activity), and pass out rubrics (see attached-work sample rubrics) **Lesson/Activity:** The lesson will be described to them as follows: In partners (potential group of three) you will be working together to solve the given problem. Each person needs his/her own sheet to be turned in. There needs to be attention to detail, and explanation of how you solved the problem throughout. A description of how and why you are doing what you are doing needs to be clear and precise. You and your group may use a work sample rubric in order to help you complete the following. Once finished, please don’t forget to check your answer, maybe using a different method.Feel free to use any method we have talked about in class, counting does not count, and don’t be afraid to try something you may have only looked at but never actually used (trig!). Good luck, have fun, and I will be here to help with any questions you may have!  | Warm – UpsSeating ArrangementWhite Board MarkersProblems printed with coordinate grids. (See below) Smart Board Document Camera | Partners is an intentional teacher action in ensure specific students are working with each other. Some students who I feel have a deeper understanding of the concepts will be placed with those who may need more assistance. Also, as a classroom management tool, some students still have a hard time picking partners in which they will be successful. Location of where they are in the room is also important. I want students to be close enough to each other to discuss, but far enough not to distract each other. There will also be groups that will struggle, I want to put them close to me to ensure I can give them more one on one attention if needed. Written on board Sentence frame: “I am focused on solving for the distance between point \_\_\_\_ and point \_\_\_\_\_\_\_.” “I am going to use the \_\_\_\_\_\_\_\_\_ strategy to solving for the distance between two points because \_\_\_\_\_\_\_\_\_\_\_\_.” “We should use \_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_.” “My answer makes sense because \_\_\_\_\_\_\_\_.”During lesson I will be posted in the front of the room. I will have the answer keys as well has a copy of the notes. I will rotate throughout the room, checking for understanding as well has helping those students/groups that I believe may need more support. Also, rotating asking questions as to ensure grasp of material/concepts. I will also be taking breaks from checking student’s answers and either making a lap around the room to help with classroom management, and/or look around the room as to ensure students are on task.  |
| **Support for Access***Such as: ELL, SPED/504, Interventions, TAG* | Students are put into partners as to help support those that may need more help. Also, placed in partners closer to me, I can be more hands on with them, and check in more often. If a student(s) need to more of a challenge, I will ask them some questions based on specific problems as to promote a deeper thought/depth of knowledge.  |  |  |
| **Closure***Such as: Formative / Summative assessment* | With the final 15 minutes, students will spend ten of it silently wrapping up the problem, and the final five minutes left in class I will be asking students to pack up their supplies and on the bottom of their problem sheet, answer the following questions. How did you feel this assignment went for you and your group members? Explain. Did you and your group find that it was useful to see concepts we use in class, in a real-world application? This will be the student’s ticket out the door. After answering, students will submit their problem sheets.  |  | This closure allows for me to not only use what I gathered by discussing/looking at their work during class, but also allows for me to have a record that I can look at and determine what may be potential stuck point later on, cater my future lessons and determine if what I think they understand, they really do. Since the idea is to implement a real world problem for exploration, I plan on insuring they have an idea of what to do by their work, and explanation.  |
| **Post Lesson Reflection:** |

**Problem:**

**The Pio Security Company has been hired to create a security system for the NCAA National College Football trophy. They will be installing a laser beam triggered security system. You will help them determine the distance the beam will travel around the room, protecting the trophy. If the beam is broken, the alarm will trigger.**

**There is a displace case in the middle of the room.**

**The beam travels in a straight line from sensor to sensor, A to B, B to C, C to D, and D back to A.**

**What is the distance the beam will travel around the room? Assume the coordinate grid is to scale.**

 

**B**

**D**

**A**

**C**