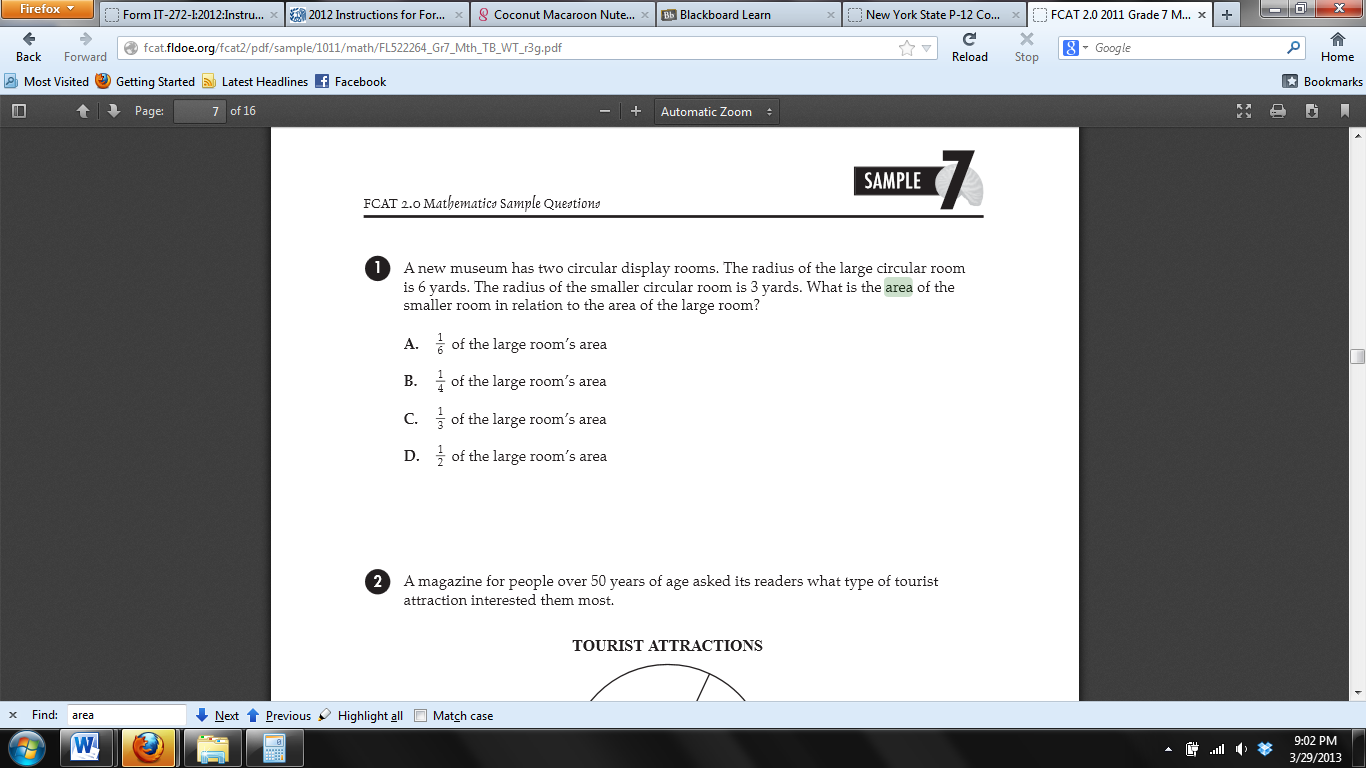
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| Name: Hannah Bischoff | Module: 5 |
| **Lesson Plan Title** | |
| Finding the Area of All Regular & Irregular Shapes (Review Presentation) | |
| **Discipline and Topic** | |
| This lesson is a review lesson to finding the area for regular shapes such as a circle, square, rectangle, triangle, trapezoid, and polygon. In addition, it includes irregular shapes that can be divided into regular shapes. The students will work in groups to answer their respective question, develop a presentation using Google Docs and VoiceThread. | |
| **Target Population** | |
| This lesson will be presented to 18 various students in the seventh grade in which 16 students are considered to be “average” students and 2 have IEPs and work with a special education teacher for 2 hours a week. | |
| **Curriculum Alignment and Standards** | |
| This lesson satisfies the NYS Common Core Standard number 7.G.6 which states that students must “Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.” | |
| **ISTE NETS Standards** | |
| In addition, this lesson satisfies the following ISTE standards for both student and teachers:  **Student:**  1. Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.  a. Apply existing knowledge to generate new ideas, products, or processes.  c. Use models and simulations to explore complex systems and issues.  d. Identify trends and forecast problems.  2. Students apply digital tools to gather, evaluate, and use information.  d. Process data and report results.  3. Students use critical-thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.  c. Collect and analyze data to identify solutions and/or make informed decisions.  **Teacher:**  1. Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.  a. Promote, support, and model creative and innovating thinking an inventiveness.  2. Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S.  a. Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity.  c. Customize and personalize learning activities to address students’ diverse learning styles, working strategies, and abilities using digital tools and resources. | |
| **Goals** | |
| Students will   * Converse with their group in order to solve the problem they are given, outline any formulas that are needed, and to describe any problems a student might have when trying to solve this type of problem. * Check their answers with the teacher and develop a presentation to display the process for this type of question. * Display their presentation through GoogleDocs and VoiceThread, allowing for their presentation to be interactive yet without the pressure of standing in front of a group. * Take notes on each group’s presentation in order to create a study guide. | |
| **Objectives (State)** | |
| 1. After providing each group with one problem, seventh-grade students will be able to find the area of the given shape in a real world context with 90% accuracy.  2. Given access to computers, seventh-grade students will be able to use GoogleDocs and VoiceThread in order to create an interactive presentation displaying their process, results, and difficulties students might have with 90% accuracy.  3. After developing their presentation, students will be able to display their presentation and take notes on all other group’s presentations with 95% accuracy. | |
| **Underlying Educational Theory** | |
| This lesson draws upon | |
| **Materials Description and Timing** | |
| Since the students are using collaborative websites to develop their presentations, I would prefer having 20 computers so that each student has their own computer. In addition, I will also have a shared file with each of the group members so that the question will already be posted in GoogleDocs and so that I will be able to see all changes made within the document as well.  In addition, I will provide each group with their own log in for the VoiceThread aspect. VoiceThread only allows one person on at a time per account. Therefore, it would be best for each group to have their own separate accounts and for the group members to each take a turn using the account for their time to talk.  There will be six groups of 3. If individuals are absent, adjustments will be made (i.e. 1 student out means 1 group of 2, 2 students out means 1 group of 4, etc.)  One student will be in charge of speaking about the process, another about the justifications, and the last about the difficulties students may face.  \*Selection Rubrics are attached in a separate document\* | |
| **Supplemental Materials/Links** | |
| The questions that will be given to the students are found at the end of this document. Will be given to the students in packet form so the class can create a study packet together. In addition, TODD activity will see if the students were paying attention to each of the individual presentations. | |
| **Lesson** | |
| Timing:  **0 – 2 minutes (0:02):** Get the class situated and make sure all students have the proper materials (packets and pencil).  **5 minutes (0:07):** Explain the activity to the students and provide them with a demonstration of how to use the VoiceThread. (Students should already be accustomed to using GoogleDocs because we have already used this application). This allows for students to ask questions in the beginning of class in order answer questions that all students may have before diving into the program.  **7 - 10 minutes (0:17):** The students will work on answering their question and justifying their processes. The students will have to check their results with the teacher before moving on to the next step.  **15 minutes (0:32):** The students will look at their information and develop a presentation using the shared document that I have created and shared with each individual group member. They will organize it into three separate parts: Process, Justification, and Problems/Questions/Difficulties that their classmates in the class might have when solving this type of problem.  **10 minutes (0:42):** After developing the presentation, students will develop their VoiceThread and incorporate it into the presentation.  **30 minutes (0:72):**  Once students have finished completely developing their presentations, the students will gather together in order to display their presentations. Inform students that the TODD activity today will be to answer one of these questions and will randomly be assigned. Therefore, they have to pay attention and take notes for all of the problems. The students will get up in front of the class and play their presentation. Other students will be taking notes and developing their study guide. At the end, the class can ask the group any questions they might have about the particular problem. Each individual presentation should be no more than 5 minutes.  **5 minutes (0:77):** Wrap up today’s review, inform students they have a test tomorrow, and provide students with the TODD.  This lesson has the potential to go longer than expected or shorter than expected. Therefore, in order to make sure that the lesson does not go longer than expected, students will be informed of the time frame that they have and the teacher will walk around in order to make sure the students are on time. If the students are ahead of schedule, they can have more room with demonstrating creativity in the presentation and/or writing out their “script” before going into VoiceThread. | |
| **Assessment of Students** | |
| The teacher will assess learning in a few different ways with this lesson.  1. One of the ways is through a rubric that targets evaluating the presentation and it’s different components.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **Beginning**  **1** | **Developing**  **2** | **Accomplished**  **3** | **Exemplary**  **4** | **Score** | | Demonstrate the Process | Students were able to identify the needed area formula(s). | Students were able to plug the correct numbers into the respective area formulas. | Students were able to accurately find the area of a given shape. | Students were able to add each of the individual areas to find the total area (if applicable). |  | | Justification of Process | Students simply restated their process without providing any justifications. | Students were able to justify the use of the particular area formula, but not for each individual step. | Students were able to justify some parts of their process, but did not justify all of their steps. | Students were able to justify the formula they used and all steps in solving for the area of that particular shape. |  | | Identification of Potential Problems | Students did not develop any questions that students might have. | Students identified one potential problem that was general in nature. | Students identified one or more potential problems, but may not have related specifically to their particular shape. | Students identified two or more potential problems and were specific to their particular shape. |  | | Overall Production of Presentation | Students were missing one or more parts required for the given presentation. | Students had all required parts, but were not presented in an organizing manner. | Students had all required parts and were presented in an organized manner, but the VoiceThread did not match up with the respective slides. | Students had all required parts, were presented in an organized manner, and displayed the proper use of VoiceThread in the presentation. |  |   2. The second assessment occurs with the TODD activity in which the students have to pay attention to the presentations of the other groups and relate this knowledge to the same exact questions, chosen in a random manner.  3. The last assessment is with the test that will be occurring in tomorrow’s class. | |
| **Evaluation of Students and Lesson** | |
| In order to determine the effectiveness of the lesson, I will use the information gathered from the in-class rubric evaluation of each group and I will use the tests that the students are completing in tomorrow’s class. This allows me to see if the students were able to make connections from the group activity towards the questions found on the test. | |
| **Low Tech Modification** | |
| If there is no technology available for this lesson, then the students can answer each of the questions within their group at their desks. From here, the students will create a poster that will outline the different components that were supposed to be in the presentation. The poster paper can be developed by either borrowing paper from the art teacher or taping pieces of computer paper or construction paper together in order to make a larger sheet of paper. Students will need markers and rulers and the teacher will provide the students with these materials.  Area of Regular & Irregular Shapes Review  Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  1.    What Shape it is? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  What is my area formula for this shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .  Process:  Potential Problems: | |

2.



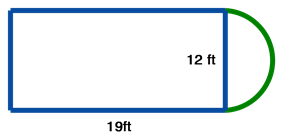
What Shape it is? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

What is my area formula for this shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

Process:

Potential Problems:

3. Find the area of this portion of a basketball court:



What Shapes are present? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

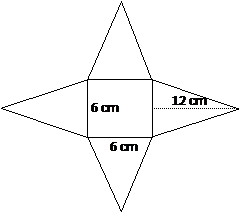
What is my area formula for the first shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

What is my area formula for the second shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

Process:

Potential Problems:

4. Find the area of the irregular shape found below.



What Shapes are present? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

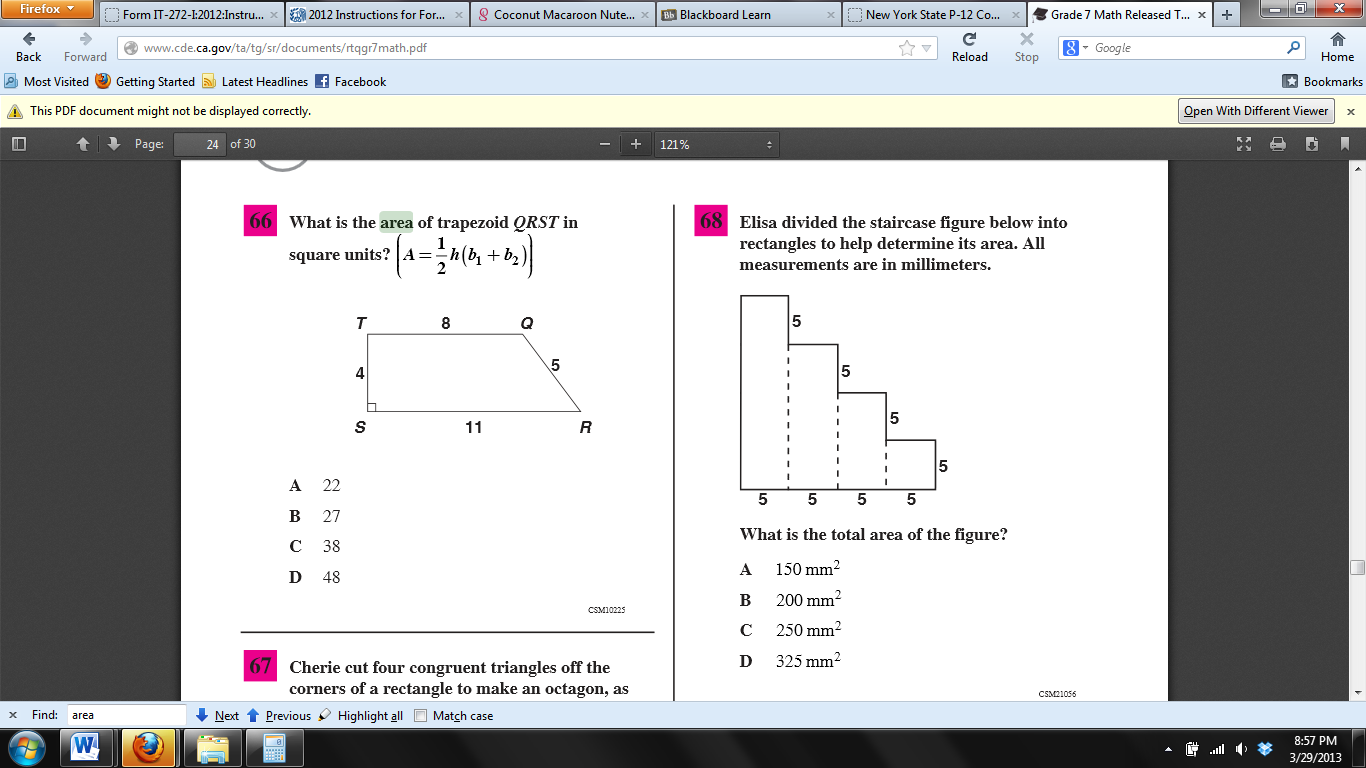
What is my area formula for the first shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

What is my area formula for the second shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

Process:

Potential Problems:

5.



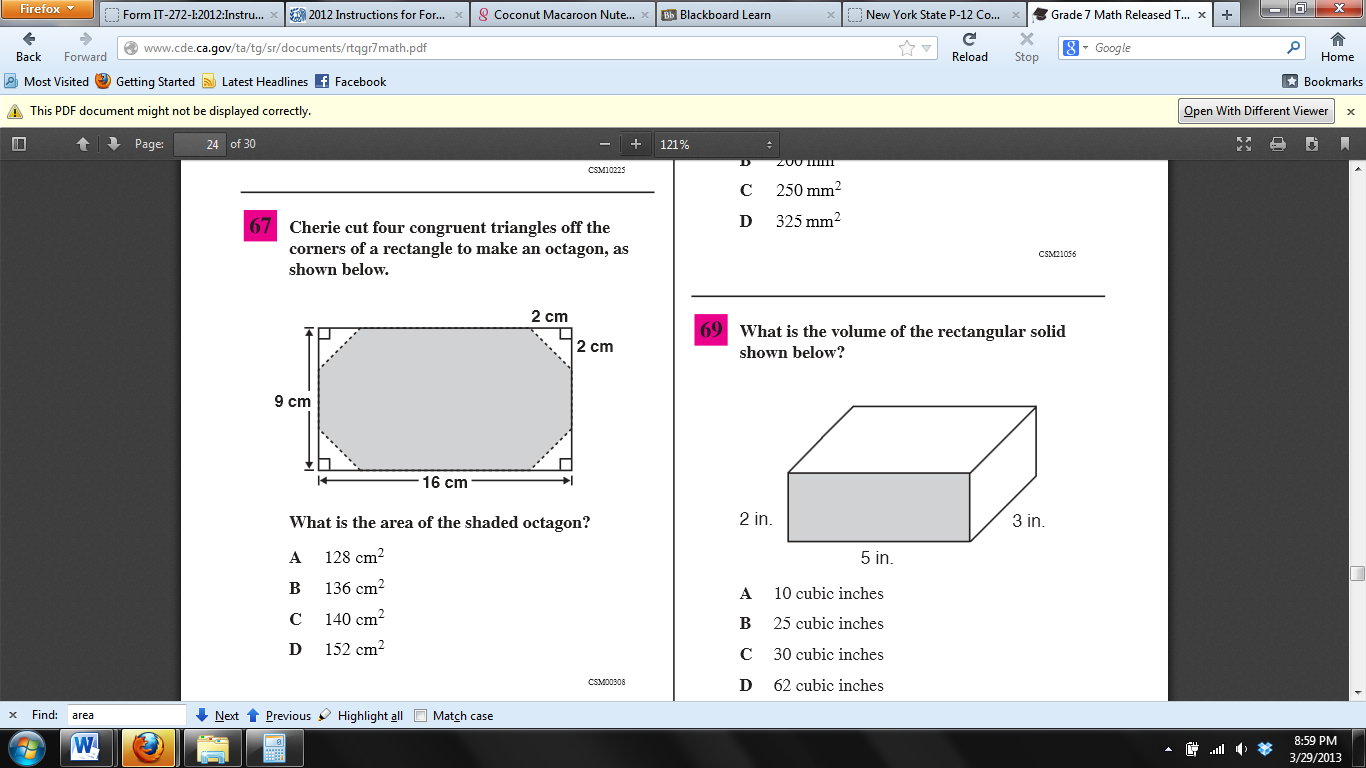
What Shape it is? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

What is my area formula for this shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

Process:

Potential Problems:

6.



What Shapes are present? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is my area formula for the first shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

What is my area formula for the second shape? \_\_\_\_\_\_\_\_\_\_\_\_\_ .

Process:

Potential Problems:

Digital Storytelling/Example of Type of Expected Presentation (Without VoiceThread):

