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| Date | Topic/Objective: Triangles | |  |
| Essential Question: How can we classify triangles? | | | |
|  | | We can classify triangles by their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and their \_\_\_\_\_\_\_\_\_\_\_\_\_\_.  Complete each section of the following table with the most appropriate answers.    **Quick Write:**  Can a triangle be both acute and isosceles? Explain.  Can a triangle be both equiangular and obtuse? Explain.      **Isosceles Triangle**  **Theorem 4-7 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Theorem 4-8** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Equilateral Triangle**  **Corollary to Theorem 4-7**  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Corollary to Theorem 4-8**  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Practice**  **Find the perimeter of triangle.**  **Find the values of** *x* **and** *y***in the diagram.**    How can you determine if a triangle on the coordinate plane is a right triangle?  Consider the figure below.     1. After connecting the points on the plane, Marcos claims that angle B is a right angle. Is Marcos correct? Explain your reasoning. 2. How can you classify a triangle on the coordinate plane by its sides?   **Try it**  Consider the figure below.    Connect the points on the plane and classify the resulting triangle. Use two different approaches to justify your answer.  What is the sum of the measures of the interior angles of a triangle?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  The \_\_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a triangle is \_\_\_\_\_\_\_\_\_\_\_\_.  Consider the following figure and complete the following proof.    **Quick Write:**  Joan knows the measures of two of the interior angles in a triangle. How could she find the third measures? Explain.  **Practice:**    Timothy was trying to find the measure of in the triangle above. His answer was 70. He is confused as he cannot understand why . Is Timothy’s answer correct? Justify your answer.  **Your turn:**  Triangle DOG has vertices at D(5, 8), O(-3, 10), and G(-3, 6).  Part A: Determine what type of triangle DOG is and mark the most appropriate answer.    Part B: If you move vertex D four units to the left, will the classification of triangle DOG change? If so, what type of triangle will it be? Justify your answer.  **Practice:**  Stephen is fencing in his triangular garden as shown by the diagram below.    Part A: Write an expression for the measure of angle Y.  **You try:**  Part B: Stephen measured angle Z as 900. He measures angle Y as 380. Did he measure correctly? Justify your answer. | |
| Summary: | | | |