

POW #7 Town Map

Due Monday 11/5/18 at the beginning of class

Mr. Sanchez is looking at a map of his town. His house is located at $(-5, 3)$ on the map. He would like to grab a bite to eat with his friend, Miss. Green. Miss Green's apartment is at $(7, 2)$ on the map. They are having a hard time deciding if they should eat at Firework's Pizza $(4, 8)$ or at the Sandwich Shoppe $(-1, -4)$.

- What restaurant should they dine in to minimize the total distance traveled by both of them if they plan to meet at the restaurant? How far do they each need to travel to get there?
- Additionally, next time they meet they agreed to meet half way between their homes. At what location/coordinate should they meet on the map?
- The Sandwich Shoppe is located at the halfway point between Mr. Sanchez's house and his favorite barbershop. At what location is the barbershop? Set up an equation and use it to solve to find the coordinates.
- Both the shopping mall and the ballpark are the same distance away from Mr. Sanchez's house. The distance is $\sqrt{80}$ to each. The ballpark is north of his house and the shopping mall is south of his house. Both the ballpark and the shopping mall have an x coordinate of -9 . Find the coordinates of both the ballpark and the shopping mall.

DIRECTIONS: Using graph paper, create the town map on a coordinate plane. Label the axes, any buildings mentioned above and any distances or midpoints you find. Provide a written explanation that explains your answers to the questions above and attach it to your map. All questions involve calculations. You need to show the calculations on your report. You may use an equation editor or you may leave room on your typed report to write in your calculations with pencil. Round all answers to the tenths place if applicable.

For the questions: I will look for correct answers, explanation that make sense, all calculations shown and use of methods we learned in class.

For the map: I will look for neatness, accuracy of placement of buildings, distances drawn and labeled, labels on buildings and axes. You may use color if you wish.

For your report: I will look to see whether it is neatly typed or handwritten and that the report is neat not folded or wrinkled and made with care. Make sure to spell check and proof read your report. I will also look at whether you completed the work.