Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_\_\_\_\_\_\_\_

7.1 Driving Around Euclid: Locating Points and Finding Distances

LT 7.1a I can find the lengths of both legs of a triangle when placed on a coordinate grid.

LT 7.1b I can find the distance between two coordinate points.

The founders of the city of Euclid loved math. They named their city after a famous mathematician, and they designed the street system to look like a coordinate grid. The Euclideans describe the locations of buildings and other landmarks by giving coordinates. For example, the art museum is located at (6, 1).

* In the city of Euclid, how does driving distance compare to flying distance?
1. Give the coordinates of each landmark in the map above.
2. Gas Station
3. Animal Shelter
4. Stadium
5. Euclid’s chief of police is planning emergency routes. She needs to find the shortest route between the following pairs of locations:

Pair 1: the police station to City Hall

Pair 2: the hospital to City Hall

1. Give precise directions for an emergency car route for each pair.

Pair 1:

Pair 2:

1. For each pair, find the total distance in blocks a police car following your route would travel.

Pair 1:

Pair 2:

1. The stadium is at (-2, 3) and the high school is at (1, 8).
2. What is the shortest driving distance (in blocks) between these two locations?

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1. Can you figure this out without looking at the grid? Explain.

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1. Suppose you know the coordinates of two landmarks in Euclid. How can you determine the shortest driving distance (in blocks) between them?

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1. A helicopter can travel directly from one point to another.
2. For each pair in Part B, find the approximate distance (in blocks) a helicopter would have to travel to get from the starting location to the ending location.

Police Station to City Hall

Hospital to City Hall

1. Discuss: Will a direct helicopter route between two locations always be shorter than a car route?