

## Pizza Delivery

Pizza House is testing a robot delivery service in downtown Richmond to deliver pizza orders. Downtown Richmond is set up like a grid making it easy for the robot to find its way around by traveling north (up), south (down), west (left), or east (right) in straight lines. The robot can hold 5 orders per route and will need to start and end at Pizza House. The following are the locations of Pizza House and each delivery in relation to City Center (0,0):

- Pizza House: (7,4)
- Delivery A: (-3,0)
- Delivery B: (-6, 2)
- Delivery C: (7, -2)
- Delivery D: (0,4)
- Delivery E: (-3, -2)

A. In what order should Pizza House program the deliveries so that the robot will make all the deliveries in one route? Provide evidence and explain your thinking.

B. What is the total distance that the robot will travel for this delivery route if each unit is equivalent to one city block? Provide evidence and explain your thinking.