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QQ7

QQ7

0 points possible (ungraded)

Which of the following statements are true concerning the Sweep Heuristic for the Vehicle Routing Problem (VRP)? (You may check more than one choice)

- ☐ a) The Sweep Heuristic will always provide the same solution regardless of the starting position.
- ☐ b) The Sweep Heuristic will always provide the same solution regardless of the direction of the sweep (clockwise or counter clockwise) if started from the same position.
- ☒ c) The Sweep Heuristic will always provide the same solution regardless of the starting position as long as the sweep direction is the same (clockwise or counter clockwise).
- ☐ d) The Sweep Heuristic will not provide the same solution twice, even if you start from the same position and use the same sweep direction.
- ☐ e) If N is the number of clusters in the network, then N vehicles will be used. ✓
- ☒ f) The sequence in which nodes are added into a cluster will not necessarily be the final order of delivery. ✓



Explanation

The correct answers are e and f.

a) False. The Sweep Heuristic will differ based on starting position and direction.

b) False. The Sweep Heuristic will differ based on starting position and direction.

- c) False. The Sweep Heuristic will differ based on starting position and direction.
- d) False. The algorithm will always give the same solution if when I use the same starting position and direction. It would not be a valid algorithm if it changed its answers each time using identical input!
- e) True. Each cluster is designed to be satisfied by one vehicle, so if I have N clusters, I will use N vehicles.
- f) True. The TSP should be solved for each cluster - the order of the adding is not always the optimal tour!

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You have used 3 of 3 attempts

i Answers are displayed within the problem

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