

## Travelling Salesperson: Courier Service Student Worksheet

## Problem

A courier service based in Luton needs to make deliveries at Hitchin, Hatfield, Letchworth, Stevenage, Hertford, St Albans and Potters Bar before returning to the central depot at Luton.



The distances between the towns along the direct routes shown above (in miles):

|             | Luton | Hitchin | St.<br>Albans | Letchworth | Stevenage | Hatfield | Hertford | Potters<br>Bar |
|-------------|-------|---------|---------------|------------|-----------|----------|----------|----------------|
| Luton       | -     | 8       | 12            | -          | -         | 14       | -        | -              |
| Hitchin     | 8     | -       | -             | 3          | 6.5       | -        | -        | -              |
| St. Albans  | 12    | -       | -             | -          | -         | 6.5      | -        | 10.5           |
| Letchworth  | -     | 3       | -             | -          | 6.5       | -        | -        | -              |
| Stevenage   | -     | 6.5     | -             | 6.5        | -         | 13.5     | 11       | -              |
| Hatfield    | 14    | -       | 6.5           | -          | 13.5      | -        | 9        | 9.5            |
| Hertford    | -     | -       | -             | -          | 11        | 9        | -        | 10.5           |
| Potters Bar | -     | -       | 10.5          | -          | -         | 9.5      | 10.5     | -              |



**Question 1** Using the map and distance table above, work out a sensible route for the courier to take.

## **Question 2**

What benefits are there to be gained by the courier having a 'good' solution to the problem above?

## **Question 3**

What other factors might the courier want to take into account? Suggest additional information that it would be useful to have in order to plan the best route more realistically.

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