1. Advertisements:

A sends: [(B, 19), (C, 11)]
B sends: [(A, 19), (C, 11), (D, 4)]
C sends: [(A, 11), (B, 11), (D, 15), (E, 5)]
D sends: [(B, 4), (C, 15), (E, 13)]
E sends: [(C, 5), (D, 13)]

These get flooded, so everyone receives them.

2. After flooding, at A

A has received:
   From B: [(A, 19), (C, 11), (D, 4)]
   C: [(A, 11), (B, 11), (D, 15), (E, 5)]
   D: [(B, 4), (C, 15), (E, 13)]
   E: [(C, 5), (D, 13)]

Initially A knew this map of the network:

After B's advertisement [(A, 19), (C, 11), (D, 4)]
After C's advertisement \([\{(A, 7), (B, 11), (D, 15), (E, 5)\}\)}:

\[
\begin{array}{c}
\text{A} \\
\text{B} \\
\text{C} \\
\text{D} \\
\text{E}
\end{array}
\]

After D's advertisement \([\{(B, 4), (C, 15), (E, 13)\}\)}:

\[
\begin{array}{c}
\text{A} \\
\text{B} \\
\text{C} \\
\text{D} \\
\text{E}
\end{array}
\]

E's advertisement provides no new info.

3. **A star's Dijkstra's Algorithm**:

<table>
<thead>
<tr>
<th>Step</th>
<th>U</th>
<th>W</th>
<th>Current cost</th>
<th>Current route</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>{A, B, C, D, E}</td>
<td>0 0 0 0 0</td>
<td>Self</td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>0 19 7 22 12</td>
<td>Self</td>
<td>A-B A-C</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>0 18 7 22 12</td>
<td>Self</td>
<td>A-C A-C A-C</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>0 18 7 22 12</td>
<td>Self</td>
<td>A-C A-C A-C</td>
</tr>
<tr>
<td>4</td>
<td>B</td>
<td>0 18 7 22 12</td>
<td>Self</td>
<td>A-C A-C A-C</td>
</tr>
<tr>
<td>5</td>
<td>D</td>
<td>0 11 7 22 12</td>
<td>Self</td>
<td>A-C A-C A-C</td>
</tr>
</tbody>
</table>

The cost to D was 8.