### 6th July

**Diagram:**
- **A** (3, 4)
- **B** (10, 4)
- **C** (10, 10)
- **D** (3, 8)

**Reflection:**
ABCD is reflected in the line $y = x$.
Write down the vertices of any invariant points.

<table>
<thead>
<tr>
<th><strong>Question</strong></th>
<th><strong>Answer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A boat sails 9 miles North from A to B. Then the boat sails 2 miles North-East from B to C. The boat then sails directly back to C.</td>
<td>How far does the boat sail in total?</td>
</tr>
</tbody>
</table>

Rationalise the denominator of $\frac{6}{3 - \sqrt{2}}$.

Solve the simultaneous equations

\[
x^2 + 3x - xy = 10
\]
\[
2x - y = 4
\]