**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Find the equation of the perpendicular bisector of the line joining and .
2. The functions and , defined on suitable domains, are given by

and .

1. Find an expression for , where .
2. State a suitable domain for .
3. Find the first three terms and the limit, if it exists, for this recurrence relation:
4. The points and lie on the graph . Write down the coordinates of the images of those points on the graph .
5. Solve for .
6. Find the **gradient** of the tangent to the curve at .