# I - Numerical Methods

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| **How is change of sign used to find roots? And when does it not work / fail?** | * Look for a change of sign between 2 points. * Fails when…   + The interval was not narrow enough, captured an even number of roots (including repeated roots).   + The graph is **discontinuous** in the interval. |
| **When does an iteration converge? How can this be drawn?** | Let g(x) have a solution α    An animation of the cobweb is drawn below:    *This works since finding the point of intersection is the same as finding roots.* |
| **What is the trapezium rule?** |  |