

UWTSD

Module

Task 3

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Date

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1 Task 3a

1.1 Table of own functions results compared with given function

Compare original functions TIME, ITERATIONS, RESULT DIFFERENCE, LINES of CODE with your results for bisection, secant and newton Raphson in a table

Running code (Moodle zip) with all associated files must be submitted to receive marks for your results table

2 Task 3b

2.1 Table of research of MATLAB/Online functions

Research MATLAB functions and mathematical techniques to calculate n5, there are many chemistry linear algebra solvers, symbolic maths solvers and engineering root solvers. You should create a table of methods ranking them based on criteria such as ease of use, efficiency, and accuracy. This table should be referenced

	Examples	Relevant Papers	Notes
Linear Algebra Solvers	Factorization, iterative solvers, Decomposition		
Non-Linear Equations	False Position Method, Newton-Raphson Method, Numerical examples, Secant Method.	International Journal of Current Science Research and Review[1]	This paper discusses the computing power of MATLAB and its suitability to solve non-linear equations
Symbolic Maths Solvers	MatLab tool box add on. Helps with integrating, matrix algebra and expression manipulation E.g Syms x Int(x*sin(x),x		

Engineering Root-Finding Solvers	Useful for dynamic models with single or multi-variable systems		
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2.1.1 Additional researched functions findings

2.2 Table of tried MATLAB/Online functions results

Compare original functions TIME, ITERATIONS, RESULT DIFFERENCE, LINES of CODE with your results for researched code functions

Running code (Moodle zip) with all associated files must be submitted to receive marks for your results table

3 Referencing

[1] International Journal of Current Science Research and Review, ijcsrr, Numerical Solution of Non-Linear Equation in MATLAB, 05 May 2025, Volume 08

Book: J. Grix, Title of Book. City: Publisher, Year; Journal Article: F. Yan et al., "Title of Article," Abbreviated Journal Title,

4 Appendices

4.1 Own code and functions task 3a

4.2 Own code task 3b