SIT190 - MAGI - WEEK 8-9 - ONTRACK ASSESSMENT - TASK 3

TRIMESTER 1, 2024

Requirements

- This submission task must be submitted by the due date to be marked as part of your portfolio.
- To submit this task, you must have already completed Tasks 1.1P, 2.1P, 3.1P, 4.1P and and submitted 2.2C, 3.2D and 5.2D. Please include a screenshot to confirm that you have submitted these tasks. Please ensure it includes your name.

Derivatives

(1) Find the stationary points of $y = (x^4 - 2x^3)e^{2x}$.
Note: you must give exact values - do not approximate the stationary point values

(2) Draw a single sign table and an accompanying sign diagram. For each interval in the sign table, select a value of x and show all working to obtain the sign of the gradient in that interval.
Note: there should be no approximations in working to obtain gradient for the selected values of x. Please leave the expressions with square roots and powers of e.

Submission

In order to complete this task, you must submit the following:

(1) Find all the stationary points showing all working.
(2) Classify the points giving the working to classify the types of points.