SIT190 - PAGE - WEEK 10 -
ONTRACK ASSESSMENT

TRIMESTER 1, 2024

Task 1: Give-it-a-go and Give-it-a-go-again

(1) Attempt the Give-it-a-go quiz early in the week. Take a screenshot of the results.
(2) Review your quiz results.
   (a) If you did not achieve full marks, identify a question that you need answered in order to understand the material.
   (b) Identify and implement a strategy to address this question. For example, you might submit a question to the weekly discussion forum, visit the HelpHub or Maths Mentors, ask the unit chair, or do further reading.
   (c) Describe the question you identified and your strategy for addressing it (2-4 sentences).
(3) Attempt the Give-it-a-go-again quiz later in the week. Take a screenshot of the results.
   Note: your screenshot should include the summary of results including the session ID. Remember, you must achieve at least 60% in this quiz.
(4) Submit a short reflection (approximately 80 words) on your improvement between the Give-it-a-go and Give-it-a-go again quizzes. Explain how your strategy helped. If it was not useful, explain why and suggest what you might do next time.

Task 2: Antidifferentiation

(1) Integrate the following functions:
   (a) $I = \int (5x^4 - 27x^3 + 38x^2)dx$
   (b) $I = \int (\frac{13}{x^3} - \frac{26}{x} + 10x^{\frac{17}{23}})dx$
   (c) $I = \int \left(10\sin(3x) + 8\tan(\frac{x}{2})\right) dx$
   (d) $I = \int (6e^{4x} - 27e^{-9x})dx$
(2) Find the original function $f(x)$ given $f'(x) = 8x^3 - 38x^2 + 56$ and $f(-2) = 1$.
(3) Find the original function $f(x)$ given $f'(x) = 8\sin(3x) + 12\cos(13x)$ and $f(-\pi) = 2$.
(4) Find the original function $f(x)$ given $f'(x) = 23/x$ and $f(e) = 3$.

Submission

To successfully complete this assessment, you must submit:

Task 1: Quizzes, Question, Strategy and Reflection

1.1 Screenshot of results of Give-it-a-go quiz.

1.2 Screenshot of results of Give-it-a-go-again quiz (You must achieve at least 60% in this quiz).

1.3 Describe the question you identified and your strategy for addressing it (2-4 sentences).

1.4 Submit a short reflection (approximately 80 words) on your improvement between the Give-it-a-go and Give-it-a-go again quizzes.

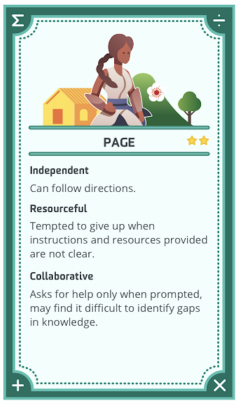
Task 2: Integration

2.1 The solutions for each of the integrals including all working.

2.2 The function including all working.

2.3 The function including all working.

2.4 The function including all working.



Useful Resources

- Watch, Read and Think Section 9.
  - 9.2 gives the power rule for integration.
  - 9.3. gives rules for integrating logarithmic functions, trigonometric functions
- Videos (Integration, More Integration Rules, Integration: application examples).
- You may also find it useful to revise the graphs for sine and cosine from previous weeks.
- Formula Sheet.