

## 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

The graph of  $y = 13x^3 + 5x^2 - 8x - 10$  is given in Figure 1.

- (1) Find the following integral  $I = \int_0^1 (13x^3 + 5x^2 - 8x - 10)dx$
- (2) Find the following integral  $I = \int_1^2 (13x^3 + 5x^2 - 8x - 10)dx$
- (3) Use the solutions to question (1) and question (2) to find the area bounded by the curve  $y = 13x^3 + 5x^2 - 8x - 10$  and the  $x$ -axis between  $x = 0$  and  $x = 2$ .
- (4) Find the integral  $I = \int_0^2 (13x^3 + 5x^2 - 8x - 10)dx$ . Explain why this is not the same as the area you found in question (3).

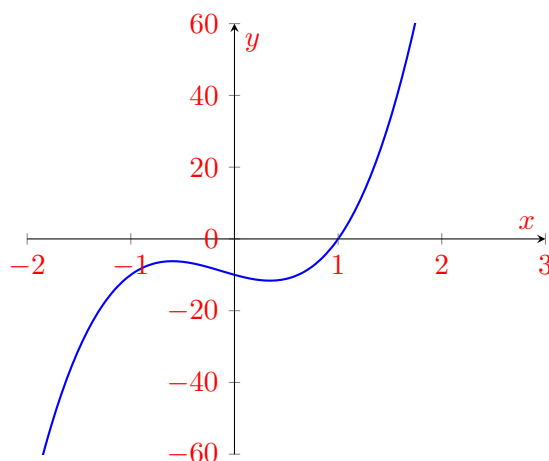


FIGURE 1. Graph  $y = 13x^3 + 5x^2 - 8x - 10$

### SUBMISSION

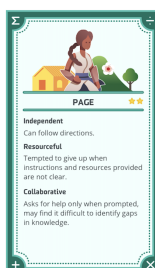
To successfully complete this assessment, you must submit:

**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:** Derivative

- 2.1 The solution for this integral showing all working.
- 2.2 The solution for this integral showing all working.
- 2.3 The area using the results from Q2.2-3. You must give the units as it is an area.
- 2.4 The solutions for this integral showing all working, and an explanation why this is not the area.



## USEFUL RESOURCES

- Watch, Read and Think Sections 9 and 10.
  - Section 9 gives some rules for integrating.
  - Section 10.2 : how to find the definite integral
  - Section 10.3: how to find the area using the definite integral.
- Make sure you know the difference between a definite and indefinite integral.
- Revise the section on finding the area using the integral.