SIT190 - Page - Week 4 - Task 1

Trimester 1, 2024

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

The purpose of the Give-it-a-go and Give-it-a-go-again quizzes is to help you identify what you have understood and to identify any areas that you need further help in. This task is about reflecting on those attempts and acting on them to achieve your learning goals.
You must attempt all questions and achieve at least 60% in the Give-it-a-go-again quiz. Usually we would expect an improvement in the Give-it-a-go-again quiz compared to the Give-it-a-go quiz.

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.

Please note that in this task, you will not be penalised for not achieving full marks in either the Give-it-a-go or the Give-it-a-go-again quizzes.

Task 2 - Quadratics

1. Factorise the following quadratics:
   (a) $x^2 - 2x - 24$
   (b) $3x^2 - 9x + 6$
   (c) $x^2 - 36$

2. Use the quadratic formula to solve the following quadratics for x

   (a) $x^2 - 3x - 15 = 0$

   (b) $5x^2 - 5x + 2 = 0$

3. For each of the following quadratic equations, identify the shape of the quadratic (frown or smile shape) explaining why you chose that shape, and find the x and y intercepts.

   (a) $y = -x^2 + 3x - 7$

   (b) $f(x) = x^2 - 5x$

4. Use your answer from the previous question to explain whether the graph in Figure 1 is $y = -x^2 + 6x - 8$ or $f(x) = x^2 - 4x$. Explain why.

5. Sketch the quadratic $y = x^2 - 24x + 80$. Please provide all working for identifying the shape and intercepts.

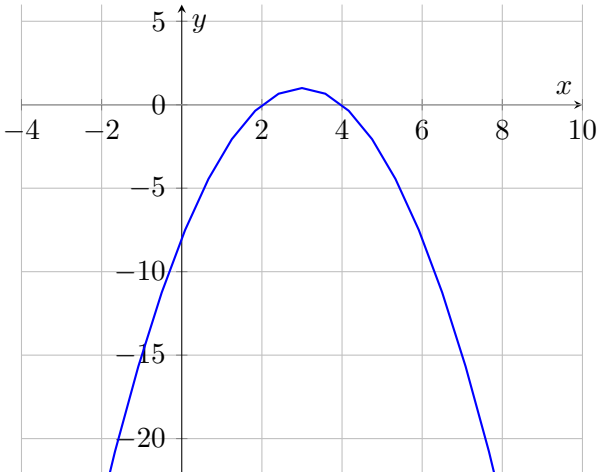

Figure 1: Graph G

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 Quadratics

2.1-2.2 The solutions and all working for Question 1 and Question 2.

2.3 The shape of the quadratic in Question 3 and the reason for choosing this shape.

2.3 The x intercepts and y intercept of the quadratic in Question 3 with all working.

2.4 The equation that matches the graph in Figure 1 and a brief explanation of why this equation is the graph.

2.5 A hand drawn sketch of the graph. All working for finding the intercepts should be given.

Useful resources

- Watch, Read and Think 4.2 and 4.4
- Treasure Chests (Factorising quadratics, the quadratic formula and sketching quadratics)
- You will need to use algebra to solve and simplify in many tasks. The unit staff, HelpHub staff and maths mentors are good resources to help with these concepts.