SIT190 - PAGE - WEEK 6 - TASK 1

TRIMESTER 1, 2024

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 Maths Mentors or the HelpHub, 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.
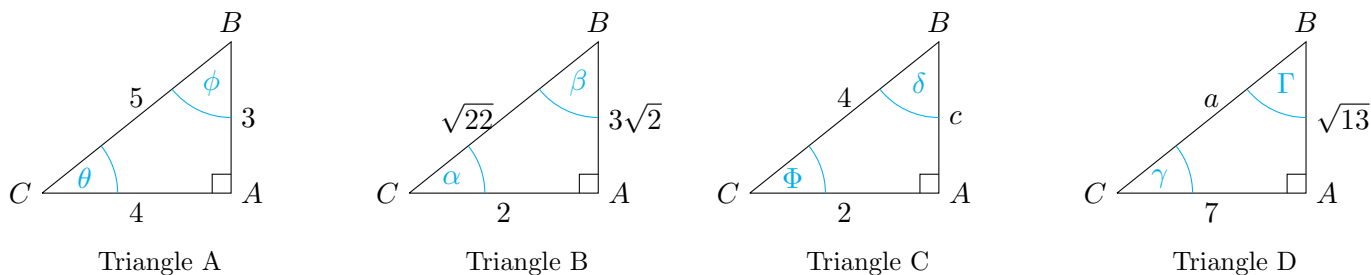
Task 2: Trigonometry

Figure 1. Triangle

(1) Draw the two special triangles. Label the sides with their lengths and give the angles in radians. (See Watch, Read and Think 6.2: Standard Triangles)
   (a) Explain how to use similar and special triangles to find angles θ and ϕ in Triangle A in Figure 1. Give these angles in radians.
   (b) Explain how to use similar and special triangles to find angles α and β in Triangle B in Figure 1. Give these angles in radians.
   (c) Explain how to use a special triangle to find $\cos(\pi/6)$ and give the answer.

(2) Find the length of side c in Triangle C in Figure 1.
(3) Find the angle δ in Triangle C in radians.
(4) Find the length of side a in Triangle D in Figure 1.
(5) Find the angle γ in triangle D in radians.
(6) Convert 21 degrees to radians.
(7) Convert $\frac{\pi}{5}$ radians to degrees.

Task 3: Functions and relations

(1) Give the domain and range for the following functions:
   (a) $y = \frac{2}{x+3}$

   (b) $y = \frac{23}{\sqrt{5-x}}$

(2) Give an example of a value of x that shows that $x^2 + y^2 = 49$ is not a function, and explain why.
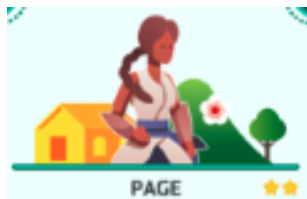
Submission

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: Trigonometry

2.1 Drawings of the two special triangles with all angles and sides correctly labelled. A clear explanation on how to use these triangles to find the solutions to 2.1A-C including the answers for each of these questions.

2.2 The side length showing all working.

2.3 The radian value of the angle showing all working.

2.4 The side length showing all working.

2.5 The radian value of the angle showing all working.

2.6 The angle in radians showing all working.

2.7 The angle in degrees showing all working.

Task 3: Functions and Relations

3.1 The domain and range of these functions.

3.2 The value of x and an explanation of why this value shows that the expression is not a function.
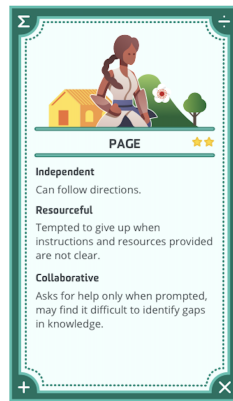
Useful resources

- Watch, Read and Think Section 3.4 has information on functions, relations, domains and ranges.
- Watch, Read and Think Section 6 has information on trigonometry.
- Treasure Chests ('Finding the missing side of a triangle' and 'Finding the missing angle of a triangle').