DHOFAR UNIVERSITY
FOUNDATION PROGRAM | MATH UNIT
FPM 101A – Math Level 1
Final EXAM Model Paper
Term (2023-24)

Student Name										
Student ID									**Date:**	
Section									**Duration: 1 hour 30 minutes**	
Instructor	**Wesam AL Karadsheh, Dr. Wajdi Alredany**									

Instructions:

1) The exam has 5 main questions with a scratch sheet.
2) Please turn off your mobile phone.
3) Use only a blue or black pen.
4) No talking, passing objects or looking in the direction of another student's paper. Any of these behaviors will be considered cheating.

Dhofar University's Academic Integrity Policy (Policy No. DU-AC-007) is intended to foster hard work, honesty, and responsibility. It strictly prohibits all forms of academic misconduct, including cheating and collusion, plagiarism, and impersonation.

By reading this pledge, I affirm that I have upheld the AIP and that my submitted work is my own and therefore free of any form of cheating.

تهدف سياسة النزاهة الأكاديمية بجامعة ظفار (السياسة رقم DU-AC-007) إلى تعزيز العمل الجاد والأمانة والمسؤولية و تحظر تمامًا جميع الأشكال التي تخالف النزاهة الأكاديمية ، بما في ذلك الغش والتواطؤ والسرقة الأدبية والإنتحال.

من خلال قراءتي لهذا التعهد أؤكد أنني ملتزم بسياسة النزاهة الأكاديمية و أن عملي هذا هو خاص بي ويخلو من أي شكل من أشكال الغش.
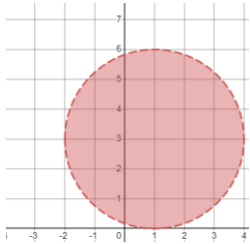
Student's Signature: _____

Marking Grid

Question	Question 1 MCQ's (out of 10)	Question 2 (out of 5)	Question 3 (out of 5)	Question 4 (out of 11)	Question 5 (out of 9)	Total / 40 marks
Marks obtained						

Marker's name:		Moderator's name:	
Marker's signature:		Moderator's signature:	
Date:		Date:	

Question 1: MULTIPLE CHOICE. Circle the correct answer.   (10 Marks)

1.	$13000\ dm\ =$ a) $0.13\ km$ b) $1.3\ km$ c) $13\ km$ d) $130000\ km$
2.	$15\ m\ =$ a) $0.015mm$ b) $0.15\ mm$ c) $1500mm$ d) $15000mm$
3.	The radius of the following circle is: a) $r = 2$ b) $r = 3$ c) $r = 4$ d) $r = 5$
4.	If a circle has a center at $(-2, -4)$ and tangent to the y- axis, then the radius of the circle is: a) -2 b) 2 c) -4 d) 4
5.	The center and the radius of the circle with equation $(x + 2)^2 + y^2 = 36$ is: a) $(2, 0), r = 6$ b) $(-2, 0), r = 6$ c) $(0, -2), r = 36$ d) $(0, 2), r = 36$
6.	The equation $3x^2 - 4x + 5 = 0$ has: a) 1 real solution b) 2 real solutions c) 3 real solutions d) No real solution
7.	$\frac{2\pi}{3}$ in degree measure is: a) $30°$ b) $45°$ c) $90°$ d) $120°$
8.	The angle $88°$ is: a) Acute angle b) Obtuse angle c) Right angle d) Straight angle
9.	The equation of a circle with radius 3 cm and center (1,2) is: a) $(x + 2)^2 + (y - 1)^2 = 9$ b) $(x - 1)^2 + (y - 2)^2 = 9$ b) $(x + 1)^2 + (y - 2)^2 = 3$ d) $(x - 1)^2 + (y - 2)^2 = 3$
10.	Find the value of the angle α if $\sin\alpha = 0.5$ a) $30°$ b) $45°$ c) $60°$ d) $90°$

Question 2:   **(5 Marks)**

Find the equation of the circle with center at (-3 , 5) and radius 2. (in standard form)

Question 3:   **(5 Marks)**

1) Find the area of the sector of circle with radius 2 cm and central angle $150°$.

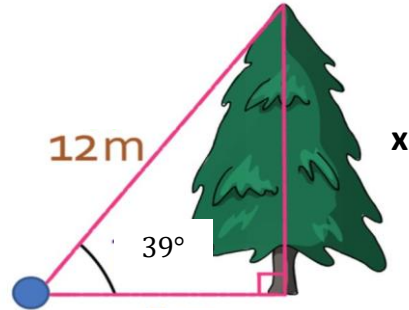2) Find the arc length of a circle with radius 3 cm and central angle $\frac{\pi}{9}$?

Question 4:   (11Marks)

a)   From the graph find the height of the tree.   (3 Marks)

b)   Given the following right angle triangle,
      Find: (8 Marks)

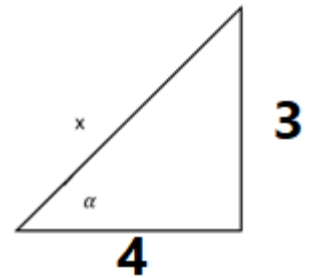1) X   (using Pythagorean theorem)   (3marks)

2) $sin \, \alpha$ (1mark)

3) $cos \, \alpha$ (1mark)

4) $tan \, \alpha$ (1mark)

5) $\angle \alpha$ (2marks)

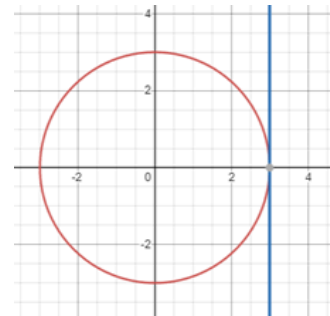## Question 5:   **(9 Marks)**

a) Solve the quadratic equation $2x^2 - 5x - 4 = 0$ (using quadratic formula)

(5marks)

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b) In the given graph of the circle, the line $x = 3$ is tangent to the circle, find   (4marks)

1) The center and the radius of the circle.   (2marks)

2) The equation of the circle. (standard form)   (2marks)

End of Final Exam Model Paper

<u>SCRATCH SHEET</u>

Name: _____

Note:

1. This scratch sheet will not be marked.

2. Do not detach it from the rest of exam papers.