ID:
Name Surname:

ME1004 COMPUTER PROGRAMMING-2023-24

HOMEWORK -1

1- Write the MATLAB representation format of the below equations (30 P).

a)
$$3\Delta G^2 = \left(\frac{\ddot{u}_1 + b \dfrac{3+e}{2f} y^3}{3a_2 + \delta - 4} \right)^{a^{2/3}} + \cos 2\pi / 5$$

b)
$$dCx_3 = \frac{1}{a(2\pi + r)} + y^3 - \sqrt{5} + \left(2\left(\frac{\sin 30°}{a+y} - \cos\theta \right) \right)^{3a}$$

c) Write the output of the x on the command window.

x = [-10: -1: -15; -2: 3];

2- Write a MATLAB script (m-file) to calculate the area of the red region (70 P).

Note: The "b" variable (length of rectangular) equals the sum of the numbers in your student ID. The "a" variable (height of rectangular) equals the sum of the first and last number of your student ID.

   a) Ask the user to type length (b=), and height of the rectangle (b=) from the keyboard.
   b) Type a program to calculate and display both the area of the rectangle and the red region as below.
      "Area of the rectangle = **……** cm2 "
      "Area of the Red region = **……**cm2 ".
   c) Run the script and write the output of the program that appears on the screen. (Command Window). Write workspace variables in a table.

a
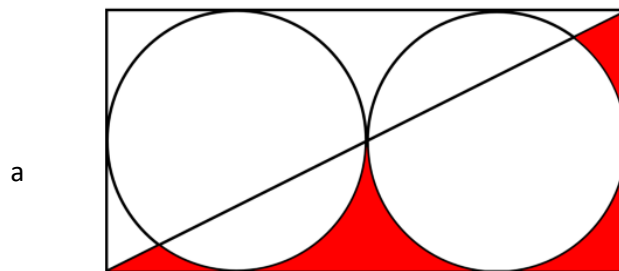
b

Explanation: Check your codes in MATLAB and submit your **handwritten** homework at the start of the first lesson in the **following week**. Do not forget to write your name and student ID.

Good Luck.   Assoc.Prof. Dr. Nurhan GÜRSEL ÖZMEN Asst. Prof. Dr. Caner SANCAK

ID:
Name Surname:

Answers

1)
a)   three_delta_G_2=((u1+b*((3+e)/(2*f)*y^3))/(3*a2+sigma-
                    4))^a^(2/3)+cos(2*pi/5)

b)   dCx3=1/(a*(2*pi+r))+y^3-sqrt(5)+2*(((sind(30))/ (a+y)
        -cos(teta))^(3*a))

c) x =

    -10   -11   -12   -13   -14   -15
     -2   -1   0   1   2   3

2)

```
%Computer programming Homework 1
clear all
clc
b=input('Enter the length: ');
a=input('Enter the height: ');
Area_rectangle=a*b;
Area_Red_region=( Area_rectangle -2*pi*(a/2)^2)/2;
disp(['Area of the rectangle = ', num2str(Area_rectangle),'
cm2'])
disp(['Area of the Red region = ', num2str(Area_Red_region),'
cm2'])
```

Command Window

Enter the length: 10

Enter the height: 2

Area of the rectangle = 20 cm2

Area of the Red region = 6.8584 cm2

Workspace

a	2
Area_rectangle	20
b	10
Area_Red_region	6.8584