YOUTUBE CHANNEL
S KHAN ACADEMY

Rough Sheet

FALL/SPRING MID/FINAL TERM 2022 (Year) Date: 18/07/22 Superintendent Signature:

Student Signature:

Campus Code: loam Student ID:

Course Code: MTH643

1) Find the value of the following expression using command of MATLAB
- $U(x,y) = 2x + xy^2 + 3y$ at $x = 5$
- $f(x) = \sin x$, at $x = \pi/2$

2) Find the Solution of the following system of linear equations in MATLAB (value of x, y and z should be displayed)

$$x + y + z = 2$$
$$-x + y + z = 3$$
$$x + 2y + 3z = 10$$

Note: Write ..

3) Plot the curve of the following in one graph

$f(x) = 2x^4 + 3x^3 + 5x^2 + 2x - 3$

$g(x) = 5x^4 + 2x^2 + 2x - 2$

on domain $[-10, 10]$

4) ~~Display~~ Take input from user.

i) What is your name?

ii) What is your age?

Then display your name and your age is:

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MATLAB Drive > untitled22.m

```
1 %Question no 1
2 clc
3 clear all
4 close all
5 syms x y
6 u=2*x+x*y^2+3*y;
7 f=sin(x);
8 Answer1=subs(u,x,5)
9 Answer2=subs(f,x,pi/2)
```

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```
Answer1 =

5*y^2 + 3*y + 10


Answer2 =

1


>>
```

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MATLAB Drive > untitled23.m

```
%Question no 2
clc
clear all
close all
clear all
syms x y z
[x y z]=solve(x+y+z-2,-x+y-z-3,x+2*y+3*z+10)
```

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x =

27/4

y =

5/2

z =

-29/4

>>

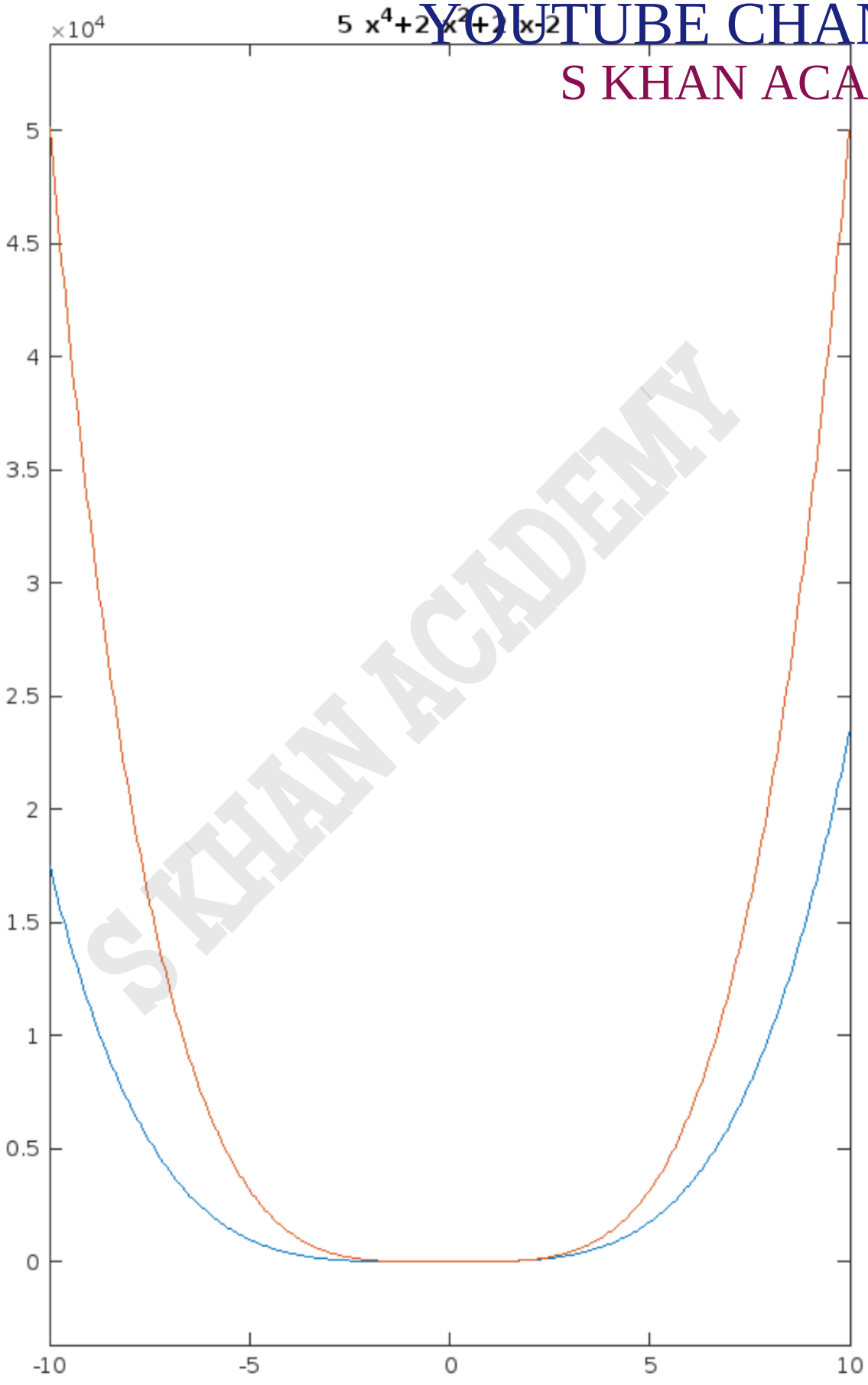
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MATLAB Drive > untitled25.m

```
1  %Question no 3
2  clc
3  clear all
4  close all
5  syms x
6  f=@(x)2*x^4+3*x^3+5*x^2+2*x-3;
7  g=@(x)5*x^4+2*x^2+2*x-2;
8  ezplot(f,[-10,10])
9  hold on
10 ezplot(g,[-10,10])
11 hold off
```

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MATLAB Drive > untitled24.m

```
1 %Question no 4
2 clc
3 clear all
4 close all
5 Name=input('What is Your Name:','s');
6
7 Age=input('what is Your age:');
8 name=Name;
9 age=Age;
10
11 disp('My name is:'),disp(name)
12
13 disp('My age is:'),disp(age)
```

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```
What is Your Name:

SANAULLAH KHAN

what is Your age:

25

My name is:
SANAULLAH KHAN
My age is:
    25


>>
```

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VU

Rough Sheet

FALL/SPRING MID/FINAL TERM 20__ (Year) Date: __/__/____ Superintendent Signature: _____

Campus Code: _____ Student Signature: _____

Course Code: _____ Student ID: _____

MTH643. 18/07/22

Q#01

Write the matlab command

1) Define x and initialize it with a value is.

2) Take the square root of x and store the answer in variable y then write code for expression.

$w = x^3 * \sin(x)$.

(2) Write the following in Matlab

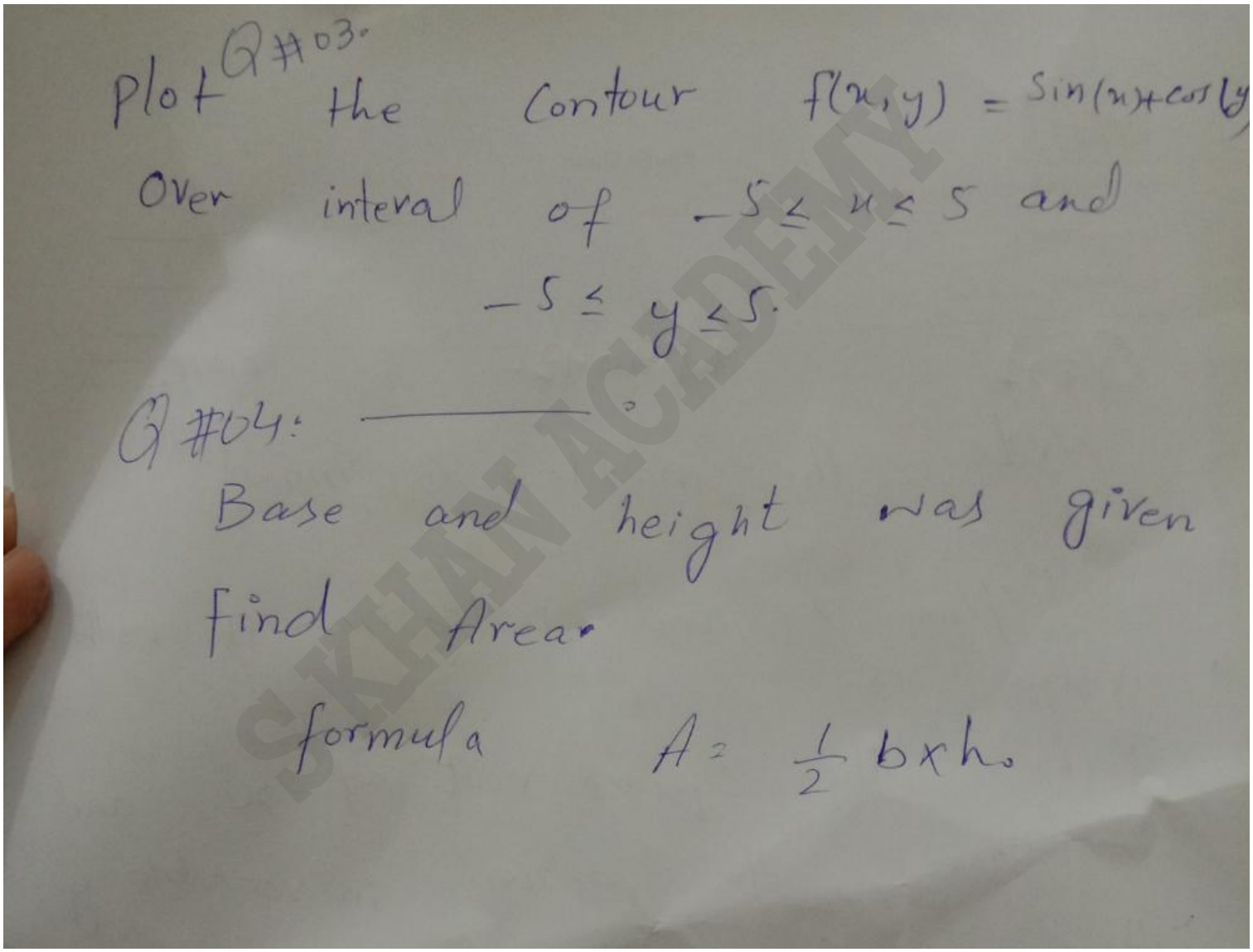
$$Z = \frac{(x+y)^6}{x^2 y}$$

The Solve the expression to find the value of Z by Subtituting the value of $x = 6$, $y = 7$

Note: Submit this sheet to Superintendent, before leaving the Examination Center.

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Plot the Contour f(x,y) = Sin(x)+cos(y
Q#03.
Over interval of $-5 \le x \le 5$ and
$-5 \le y \le 5$.
Q#04: _____.
Base and height was given
find Arear
formula $A = \frac{1}{2} b \times h$.
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MATLAB Drive > untitled18.m

```
%Question No 1
%define x and initilize it with value 15
%take the squarroot of x and store value
% in variable y
% then write the code for w=x^y*sin(pi)
clc
clear all
close all
syms x
x=15
y=sqrt(x)
W=x^y*sin(sym(pi))
```

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```
x =

    15

y =

    3.8730

W =

0


>>
```

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MATLAB Drive > untitled19.m

```
% write the following in matlab
%Z=(x+y)^6/(x^2y) and find the value of z
%by subsituation value of x=6, y=7
clc
clear all
close all
syms x y
Z=(x+y)^6/(x^2*y)
answer=subs(Z,{x,y},{6,7})
```

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```
Z =

(x + y)^6/(x^2*y)


answer =

4826809/252


>>
```

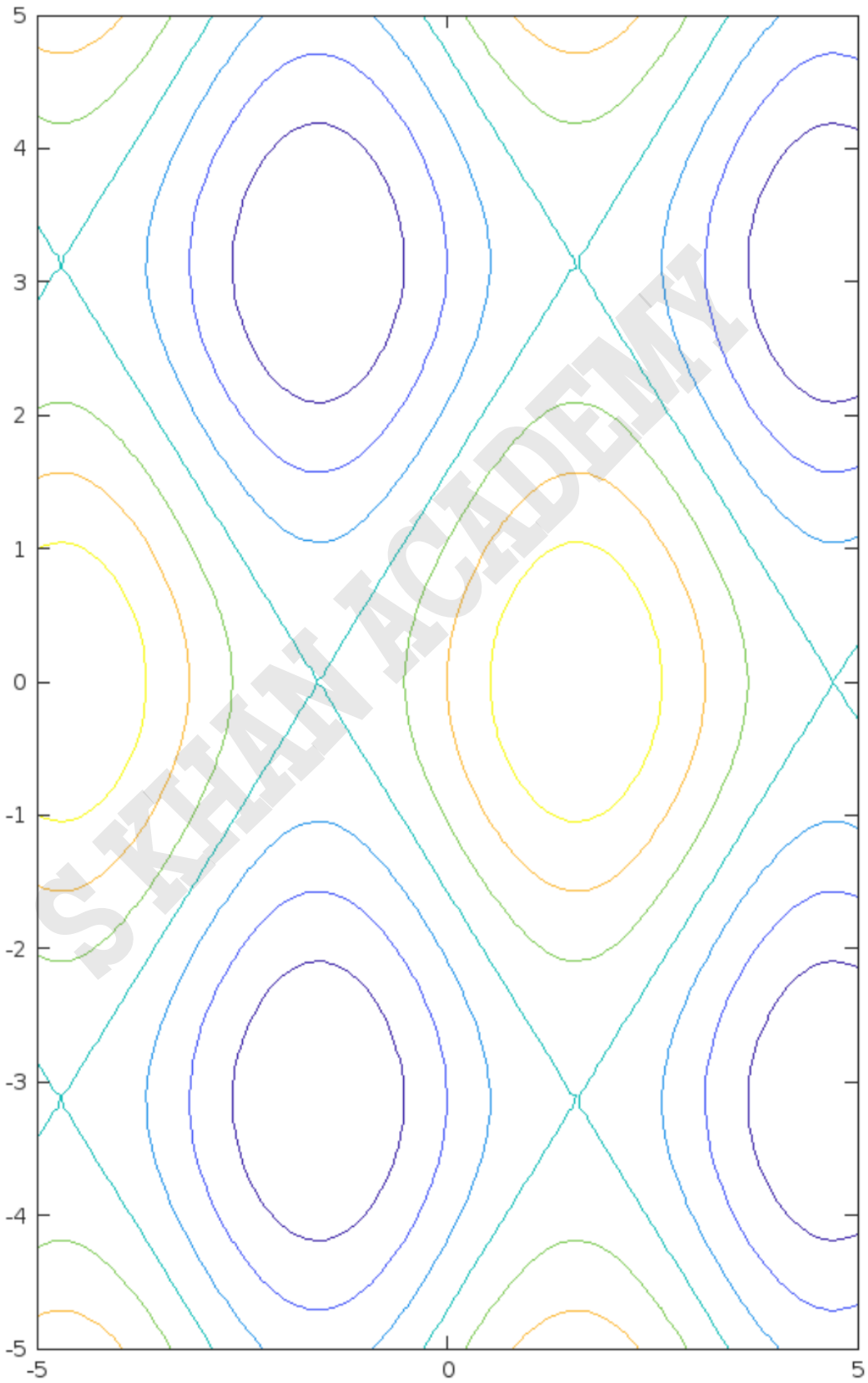
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MATLAB Drive > untitled20.m

```
1 %Question 3
2 clc
3 clear all
4 close all
5 syms x y z
6 [x,y]=meshgrid(-5:0.1:5,-5:0.1:5);
7 f=sin(x)+cos(y);
8 contour(x,y,f)
```

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MATLAB Drive > untitled21.m

```
%Question no 4
clc
clear all
close all
a=6;
h=7;
A=1/2*a*h;
disp('Area of triangletangle is: '),disp(A)
```

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```
Area of triangletangle is:
    21


>>
```

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