الاسم: .... رقم القيد: .... المجموعة: ....

Q1. (6 Marks, 1 each) Tick V**alid** (✔) or **Not Valid** (✗) in front of the following MATLAB commands:

- `A = [2 6]; B = [4 8]; A*B`　　　　　　　　　　　　　　　　　　(✗)

- `syms x y; M = [x y^3; x*y x+y]`　　　　　　　　　　　　(✔)

- `H = @(x) x^3; G(2:2:8)`　　　　　　　　　　　　　　　(✗)

- `a = 12; b = 3; rem(a/b)`　　　　　　　　　　　　　　　(✗)

- `t = 0:10*pi; subplot(2,1,3); plot(t, sin(t))`　　　(✗)

- `x = 0:10*pi; stem(sin(x), x)`　　　　　　　　　　　　(✔)

Q2. (**5 Marks**, **1 each**) **Evaluate** the following MATLAB codes**:**

MATLAB Expression	Evaluation Result
`>> logspace(1,3,3)`	```ans = 10 100 1000```
`>> a = [ 1 2 3 4 ] ;` `>> a = [a ; ones(1,4)]`	```a = 1 2 3 4 1 1 1 1```
`>> t = rand;` `>> ceil(t)`	```ans = 1```
`>> a = [ 1 2 3 4 ] ;` `>> max(a) + min(4*a) + 2`	```ans = 10```
`>> t = rand(2,3);` `>> size(t)`	```ans = 2 3```

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الاسم: .... رقم القيد: .... المجموعة: ....

Q3. (5 Marks, 1 each) W**rite** the following Mathematical Expressions into MATLAB Expressions

Mathematical Expression	MATLAB Expression
$x = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix}$	`x = ones(2,3)`
$y = \begin{bmatrix} 8 & 1 & 6 \\ 3 & 5 & 7 \\ 4 & 9 & 2 \end{bmatrix}$	`y = magic(3)`
$\ln 3t^2$	`syms t` `log(3*t^2`
$\dfrac{d}{dx}\, x\cos\left(x + \dfrac{\pi}{2}\right)$	`ans =` `cos(x + pi/2) - x*sin(x + pi/2)`
$\displaystyle\int_{-\pi}^{\pi} x\sin(2\pi x)\, dx$	`syms x` `int(x * sin(2*pi*x) , x)`

Q4. (4 Marks) Rewrite the following MATLAB script involving a single **while** statement**:**

```
clear; clc

for m = 0:10

fprintf('2 x %d = %d\n',m ,m*2 )

end
```

```
clear; clc

m = 0;

while m <= 10

    fprintf('2 x %d = %d\n' , m, m*2)

    m = m + 1;

end
```

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Best of luck

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