

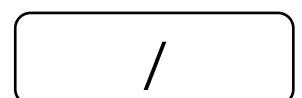
الاسم: رقم القيد: المجموعة:

Q1. (6 Marks, 1 each) Tick Valid (✓) 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
<code>>> logspace(1,3,3)</code>	ans = 10 100 1000
<code>>> a = [1 2 3 4] ;</code> <code>>> a = [a ; zeros(1,4)]</code>	a = 1 2 3 4 0 0 0 0
<code>>> t = rand;</code> <code>>> ceil(t)</code>	ans = 1
<code>>> a = [1 2 3 4] ;</code> <code>>> max(a) + min(4*a) + 2</code>	ans = 10
<code>>> t = rand(2,3);</code> <code>>> size(t)</code>	ans = 2 3



Q3. (5 Marks, 1 each) Write the following Mathematical Expressions into MATLAB Expressions

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

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

<pre>clear; clc for m = 0:10 fprintf('2 x %d = %d\n',m ,m*2) end</pre>	<pre>clear; clc m = 0; while m <= 10 fprintf('2 x %d = %d\n' , m, m*2) m = m + 1; end</pre>
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