

King Fahd University of Petroleum and Minerals

Department of Mathematics

MATLAB Command Sheet

MATH101 Recitation Lab

| Mathematical Expression | MATLAB | Mathematical Expression | MATLAB |
|-------------------------|---------|-------------------------|--------------|
| $\sin(x)$ | sin(x) | $\cot^{-1}(x)$ | acot(x) |
| $\tan(x)$ | tan(x) | $\csc^{-1}(x)$ | acsc(x) |
| e^x | exp(x) | x^n | x^n |
| $\ln x$ | log(x) | \sqrt{x} | sqrt(x) |
| $\cos^{-1}(x)$ | acos(x) | $\sqrt[n]{x}$ | nthroot(x,n) |
| $ x $ | abs(x) | ∞ | inf |

| MATLAB command | Usage |
|-----------------------------------|--|
| plot | to graph a function |
| solve(f) | Solve $f(x)=0$ |
| diff(f,'x',n) | $f^{(n)}(x)$ |
| vpa(f(a)) | To convert the fraction to decimal number |
| finverse(f) | To find it's inverse function |
| limit(function, variable, number) | The limit of the function with respect to the variable when it approaches to the desired number. |

| | |
|---|---|
| <code>vpa(a)</code> | defining the variable a |
| <code>z = linspace(x1,x2)</code> | returns a row vector of 100 evenly spaced points between x_1 and x_2 . |
| <code>limit(function, variable, number, 'left')</code> | The limit of the function with respect to the variable when it approaches to the desired number from the left |
| <code>piecewise(cond1, val, cond2, val2,...)</code> | To define a piecewise function |
| <code>floor()</code> . | $\lfloor \]$ the greatest integer function. |
| <code>simplify()</code> | Simplify expression |
| <code>subs(cos(a) + sin(b), {a,b}, {sym('alpha'),2})</code> | <code>ans = sin(2) + cos(α)</code> |