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
$sin^3(x+1)$ $= (sin(x+1))^3$	(sin(x+1))^3 =sin(x+1)^3 • Both are display as $\sin(x+1)^3$	$\sin(x+1)^3$	Sin((x+1)^3) *Dispay as $\sin((x+1)^3)$

MATLAB command	**Usage**
plot	to graph a function
solve(f==c)	Solve f(x)=c
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.
vpa(a)	defining the variable a
z = linspace(x1,x2)	returns a row vector of 100 evenly spaced points between x1 and x2.
limit(function, variable, number, 'left')	The limit of the function with respect to the variable when it approaches to the desired number from the left
piecewise(cond1, val, cond2, val2,...)	To define a piecewise function
floor().	⟦⬚⟧ the greatest integer function.
simplify()	Simplify expression
subs(cos(a) + sin(b), {a,b}, {sym('alpha'),2})	$\text{ans} = \sin(2) + \cos(\alpha)$
factor(x^4-8*x)	$\begin{pmatrix} x & x-2 & x^2+2x+4 \end{pmatrix}$