

## Formula Sheet

### Linear Regression Equations

$$a = \frac{\bar{x}\bar{y} - \overline{xy}}{(\bar{x})^2 - \overline{x^2}}$$

$$b = \bar{y} - a\bar{x}$$

$$SSE = \sum_{i=1}^n [y_i - f(x_i)]^2$$

$$SST = \sum_{i=1}^n [y_i - \bar{y}]^2$$

$$r^2 = 1 - \frac{SSE}{SST}$$

### MATLAB Functions / Operators

#### Exam 1

abs	exit	log	sec	+	-	*	/	^
acos	exp	log10	sin	=				
all	factorial	logspace	size	.*	./	.^		
ans	figure	max	sort	%				
any	find	mean	sqrt	&   ~ &&				
atan	format	median	std	= = < >				
axis	fprintf	min	subplot	<= >=				
clc	grid	mode	sum	.' (transpose)				
clear	help	NaN	tan	,				
cos	hold	ones	title	:				
cot	i, j	pi	who	;				
csc	Inf	plot	whos	[ ] (null vector)				
csvread	input	polyfit	xlabel	( )				
disp	legend	polyval	xor	... (ellipsis)				
doc	length	prod	ylabel					
end	linspace	quit	zeros					
error	load	round						

### Selection of MATLAB Plot Special Characters

Line Type	Indicator
solid	-
dotted	:
dash-dot	-.
dashed	--

Marker Type	Indicator
circle	o
x-mark	x
plus	+
square	s

Color	Indicator
blue	b
green	g
red	r
black	k

### Selection of MATLAB Conversion Characters for Formatting

Value Type	Conversion
Floating, fixed point	f
Integer, signed	i or d
String	s