**Chapter 02: Fundamental Operators and Commands**

**MATLAB as a Calculator**

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| MATLAB code | Output |
| % Addition  5+5 | ans =  10 |
| % Subtraction  8-3 | ans =  5 |
| % Multiplication  5\*3 | ans =  15 |
| % Division  25/5 | ans =  5 |
| % Power ()  2^3 | ans =  8 |
| % Square root ()  sqrt(81) | ans =  9 |
| % Exponent ()  exp(2) | ans =  7.3891 |
| % Logarithm ()  log(8)  %  log(exp(8))  %  log10(100)  %  log2(16) | ans =  2.0794  ans =  8  ans =  2  ans =  4 |
| % Trigonometry angles in radians  sin(20)  cos(20)  tan(30)  csc(10)  sec(8)  cot(5) | ans =  0.9129  ans =  0.4081  ans =  -6.4053  ans =  -1.8382  ans =  -6.8729  ans =  -0.2958 |
| % Trigonometry angles in radians using pi  sin(pi/6)  cos(pi/3)  tan(pi/4)  csc(pi/6)  sec(pi/3)  cot(pi/4) | ans =  0.5000  ans =  0.5000  ans =  1.0000  ans =  2.0000  ans =  2.0000  ans =  1.0000 |
| % Trigonometry angles in degrees  sind(30)  cosd(60)  tand(45)  cscd(30)  secd(60)  cotd(45) | ans =  0.5000  ans =  0.5000  ans =  1  ans =  2  ans =  2  ans =  1 |
| % Demonstrate  sin(20)^2 + cos(20)^2  sin(pi/3)^2 + cos(pi/3)^2  sind(30)^2 + cosd(30)^2 | ans =  1  ans =  1.0000  ans =  1 |
| sqrt(((4.172+9.131844)^3 -18)/(-3.5 + (11.2-4.6)\*(7-2.91683)^-0.4)) | ans =  94.8687 |
| nthroot((((4.23+6.325)^3 -10)/(2.5+(8.23-2.56)^-0.2\*exp(3.2))),3) | ans =  3.8879 |
| nthroot(((2+cosd(120))^3-log(5.25))/(2.5\*exp(5/3)+sin(pi/6)),5) | ans =  0.6597 |
| % Rounds a using the standard rounding rules  round(23.4565)  round(23.6565)  round(23.6565,2)  round(23.6565,3) | ans =  23  ans =  24  ans =  23.6600  ans =  23.6570 |
| % Nearest integer greater than or equal  ceil(52.26)  ceil(52.95) | ans =  53  ans =  53 |
| % Nearest integer smaller than or equal  floor(52.26)  floor(52.95) | ans =  52  ans =  52 |