in the Command History Window can be cleared by selecting the lines to be deleted and then right-clicking the mouse and selecting **Delete Selection**. The whole history can be deleted by right-clicking the mouse and selecting choose **Clear Command History** in the menu that opens.

1.3 ARITHMETIC OPERATIONS WITH SCALARS

In this chapter we discuss only arithmetic operations with scalars, which are numbers. As will be explained later in the chapter, numbers can be used in arithmetic calculations directly (as with a calculator) or they can be assigned to variables, which can subsequently be used in calculations. The symbols of arithmetic operations are:

Operation	Symbol	Example
Addition	+	$5 + 3$
Subtraction	–	$5 - 3$
Multiplication	*	$5 * 3$
Right division	/	$5 / 3$
Left division	\	$5 \backslash 3 = 3 / 5$
Exponentiation	^	$5 \char`\^ 3$ (means $5^3 = 125$)

It should be pointed out here that all the symbols except the left division are the same as in most calculators. For scalars, the left division is the inverse of the right division. The left division, however, is mostly used for operations with arrays, which are discussed in Chapter 3.

1.3.1 Order of Precedence

MATLAB executes the calculations according to the order of precedence displayed below. This order is the same as used in most calculators.

Precedence	Mathematical Operation
First	Parentheses. For nested parentheses, the innermost are executed first.
Second	Exponentiation.
Third	Multiplication, division (equal precedence).
Fourth	Addition and subtraction.

In an expression that has several operations, higher-precedence operations are executed before lower-precedence operations. If two or more operations have the same precedence, the expression is executed from left to right. As illustrated in the next section, parentheses can be used to change the order of calculations.

1.3.2 Using MATLAB as a Calculator

The simplest way to use MATLAB is as a calculator. This is done in the Command Window by typing a mathematical expression and pressing the **Enter** key. MATLAB calculates the expression and responds by displaying ans = followed by the numerical result of the expression in the next line. This is demonstrated in Tutorial 1-1.

Tutorial 1-1: Using MATLAB as a calculator.

```
>> 7+8/2                                         Type and press Enter.

ans =                                            8/2 is executed first.
    11
>> (7+8)/2                                       Type and press Enter.

ans =                                            7+8 is executed first.
    7.5000
>> 4+5/3+2

ans =                                            5/3 is executed first.
    7.6667
>> 5^3/2

ans =                              5^3 is executed first, /2 is executed next.
    62.5000
>> 27^(1/3)+32^0.2

ans =                     1/3 is executed first, 27^(1/3) and 32^0.2 are
     5                    executed next, and + is executed last.
>> 27^1/3+32^0.2
                          27^1 and 32^0.2 are executed first, /3 is exe-
ans =                     cuted next, and + is executed last.
    11


>> 0.7854-(0.7854)^3/(1*2*3)+0.785^5/(1*2*3*4*5)...
-(0.785)^7/(1*2*3*4*5*6*7)
                          Type three periods ... (and press Enter) to
                          continue the expression on the next line.
ans =
    0.7071
>>                        The last expression is the first four
                          terms of the Taylor series for sin(π/4).
```

1.4 DISPLAY FORMATS

The user can control the format in which MATLAB displays output on the screen. In Tutorial 1-1, the output format is fixed-point with four decimal digits (called short), which is the default format for numerical values. The format can