

## EXERCISES

1. Evaluate the following MATLAB expressions yourself (before you use MATLAB to check!). The numerical answers are in parentheses (or round brackets).

$$\begin{array}{ll}
 2 / 2 * 3 & (3) \\
 2 / 3 ^ 2 & (2/9) \\
 (2 / 3) ^ 2 & (4/9) \\
 2 + 3 * 4 - 4 & (10) \\
 2 ^ 2 * 3 / 4 + 3 & (6) \\
 2 ^ (2 * 3) / (4 + 3) & (64/7) \\
 2 * 3 + 4 & (10) \\
 2 ^ 3 ^ 2 & (64) \\
 -4 ^ 2 & (-16; ^ has higher precedence than -)
 \end{array}$$

2. Use MATLAB to evaluate the following expressions. The answers are in round brackets again.

- $\sqrt{2}$  (1.4142; use `sqrt` or `^0.5`)
- $\frac{3+4}{5+6}$  (0.6364; use brackets)
- Find the sum of 5 and 3 divided by their product (0.5333)
- $2^{3^2}$  (512)
- Find the square of  $2\pi$  (39.4784; use `pi`)
- $2\pi^2$  (19.7392)
- $1/\sqrt{2\pi}$  (0.3989)
- $\frac{1}{2\sqrt{\pi}}$  (0.2821)
- Find the cube root of the product of 2.3 and 4.5 (2.1793)
- $\frac{1 - \frac{2}{3+2}}{1 + \frac{2}{3-2}}$  (0.2)
- $1000(1 + 0.15/12)^{60}$  (2107.2, e.g. \$1000 deposited for 5 years at 15 percent per year, with the interest compounded monthly)
- $(0.0000123 + 5.678 \times 10^{-3}) \times 0.4567 \times 10^{-4}$  ( $2.5988 \times 10^{-7}$ ; use scientific notation, e.g. `1.23e-5` ...; do *not* use `^`)

3. Try to avoid using unnecessary brackets in an expression. Can you spot the errors in the following expression (test your corrected version with MATLAB):

$$(2(3+4) / (5*(6+1)))^2$$