

APPENDIX E: OPERATOR PRECEDENCE

Your WP 31S does not have to care for operator precedence since it executes just one operation at a time (cf. p. 33). Hence it is your job to control the sequence of operations you present to your WP 31S. There are common rules and conventions in mathematics dealing with that – you have learned them in school. Here is just one example for affirmation and/or reminding:

$$1 - 2 \cdot 3^4 \div 5 + \sin(6 - \sqrt[3]{7^2}) \cdot 8! + \ln \left[\left(-9^{2^3} \cdot 45^{(6/7)} \right)^2 \right]$$

(or written for another part of this world, needing more space:

$$1 - 2 \times 3^4 \div 5 + \sin(6 - \sqrt[3]{7^2}) \times 8! + \ln \left[\left(-9^{2^3} \times 45^{(6/7)} \right)^2 \right])$$

This may be solved e.g. the following way using your WP 31S in startup default settings:

9 **ENTER** 2 **ENTER** 3 **y^x** **y^x** **↵** calculates -9^{2^3} – note the arguments automatically fill in correctly

6 **ENTER** 7 **/** 45 **x^zy** **y^x** calculates $45^{(6/7)}$

x **x²** **LN**

solves the rightmost term

7 **x²** 3 **1/x** **y^x** 6 **x^zy** **-**

solves the argument of sine

SIN 8 **x!** **x** **+**

solves the third term and adds it to the fourth

3 **ENTER** 4 **y^x** 2 **x** 5 **/** **-** solves the second term and subtracts it from said sum

1 **+**

returns the overall solution

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The colors indicate the stack levels employed for this solution (cf. p. 32). Note **x^zy** is used twice to swap arguments.