# **HP-45 Quick Reference**

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## **Memory & Display**

Memory	9 storage registers, not preserved during power-off
Quick reference	The back label of the calculator shows detailled instructions
FIX n	Choose fix point format with n decimal digits
SCI n	Choose scientific (exponential) format with n decimal digits
STO 19	Save number in storage register. R9 will be lost during trigonometric
	operations and rectangular/polar conversions!
STO +-x÷ 19	Register storage arithmetic: Register OP $X \rightarrow$ Register
RCL 19	Get number from storage register into X
RCL +-x÷ 19	Register recall arithmetic: X OP Register → X
CLEAR	Clear stack and registers R5 – R8 (the summation registers)
DEG	Use trigonometric mode degress (360, default)
RAD	Use trigonometric mode radians $(2\pi)$
GRD	Use trigonometric mode grad (400)

# **Functions (Selection)**

n!	Faculty. X must be ≥0
y <sup>x</sup>	Y to the power of X. Y must be ≥0
%	Calculates X percent of Y. The stack does not drop
$\Delta$ %	Percential difference from Y to X. The stack does not drop

### **Conversions**

→P	Convert rectangular coordinates $(X,Y)$ to polar coordinates $(r,\theta)$
→R	Convert polar coordinates $(r,\theta)$ to rectangular coordinates $(X,Y)$
→D.MS	Convert fractional hours to hours/minutes/seconds in h.mmss format.
	This temporarily switches to FIX 4
$D.MS \!\!  o \!\!$	Convert hours/minutes/seconds in h.mmss format to fractional hours
cm/in, kg/lb,	These conversion keys merely push a conversion factor onto the stack
ltr/gal	so that conversions in both directions are possible

### **Summation**

Memory	Summation registers are mapped to the following storage registers: n=R5, $\Sigma x^2$ =R6, $\Sigma x$ =R7, $\Sigma y$ =R8
	To clear summation register contents press CLEAR
Σ+	Add X & Y to the summation registers, increment n and display n
Σ-	Substract X & Y from the summation registers, decrement n and display n
RCL Σ+	Recall contents of $\Sigma x$ and $\Sigma y$ to the X & Y stack registers
STO Σ+	Same as $\Sigma$ +
SX	Calculate mean of the X values $\rightarrow$ X and standard deviation s $\rightarrow$ Y where: s=SQRT[ $\{n\sum x^2 - (\sum x)^2\} / \{n(n-1)\}$ ]