

## Recommended key short-cuts:

key on a Hungarian keyboard	function
F1	help
F2	edit cell content, highlight references
F4	fix reference (add dollar sign)
F9	refresh cell content (recalculate) e.g. in case of RAND() function
Shift+arrows	select
Ctrl+arrows	quick moving between the limits of a range of data
Ctrl+Shift+arrows	quick selection of a range of data
Ctrl+Shift+Enter	creating an array of cells e.g. in case of the FREQUENCY() function
Shift+7	= (equal sign): create a function or equation
+ (numpad)	addition
- (numpad)	subtraction
* (numpad)	(asterisk) multiplication
/ (numpad)	(slash) division
Alt Gr+3 (+space)	^ (caret): exponentiation (powers)
Alt Gr+é (or F4)	\$: fixed referenced cell address
Shift+1	' (apostrophe): turn cell content into text
Shift+2	" (quotation mark): enter text as a function's argument (input) e.g. in case of the COUNTIF() function
Alt Gr+í	< (less than)
Alt Gr+y	> (greater than)
Alt Gr+,	; (semicolon): separate function arguments (inputs)
Alt Gr+c	& (et sign): relate expressions with cell contents e.g. in case of the COUNTIF() function
Enter	finalize editing and move down
Shift+Enter	finalize editing and move up
Tab	finalize editing and move to the right
Shift+Tab	finalize editing and move to the left
Esc	cancel editing
Ctrl+x	cut
Ctrl+c	copy
Ctrl+v	paste
Ctrl+z	undo
Ctrl+y	redo
Ctrl+1	format selected object (cell, part of text, graph etc.)
Ctrl+s	save
Ctrl+n	open new worksheet
Shift+Alt	change keyboard language
Alt+Enter	break rows within a cell
Alt+.	show functions in cells (instead of values)
Shift+8 and Shift 9	() (round parentheses): e.g. to enter function arguments (inputs)

## Recommended Excel functions:

**note1:** those marked with an astrisk (\*) are compatibility functions

**note2:** those marked with an astrisk (##) are needed for homework problems, but are not needed on exam

sum()	skew()
log()	kurt()
ln()	frequency()
sqrt()	
power()	## norm.dist() *normdist()
exp()	## norm.inv() *norminv()
## abs()	## norm.s.dist() *normsdist()
## sign()	## norm.s.inv() *normsinv()
pi()	## t.dist() *tdist()
## rand()	## t.inv() *tinv()
## randbetween()	t.inv.2t()
	t.dist.2t()
count()	binom.dist() *binomdist()
counta()	## binom.inv()
countif()	negbinom.dist()
countifs()	## poisson.dist() *poisson()
average()	
median()	t.test() *ttest()
mode.sngl() *mode()	f.test() *ftest()
## mode.mult()	Wilcoxon_Test()
quartile.incl() *quartile()	Mann_Whitney_Test()
percentile.incl() *percentile()	slope()
max()	intercept()
min()	correl() * Pearson()
var.s() *var()	rsq()
var.p() *varp()	chisq.test() *chitest()
stdev.s() *stdev()	chisq.inv.rt() *chiinv()
stdev.p() *stdevp()	chisq.dist.rt() *chidist()

## Calculations:

*frequency distributions* (absolute and relative (both for numerical and categorical variables), absolute cumulative, relative cumulative, absolute integral, relative integral)

*descriptive statistics elements* (data count, average, median, mode(s), k-quantile, quartiles, quintiles..., maximum, minimum, range, interquartile range, variance and standard deviation— based on a sample, or population, skewness, kurtosis)

*interval estimations* (standard error of mean, t-value, estimation for t-value in special (68%, 95%, 99,7% intervalls) and general cases, degree of freedom; ranges, confidence ranges)

*probability calculus* (probability, odds, logit calculations based on binomial distribution and geometric distribution – mass and cumulative distributions)

*other probability calculations* (conditional frequency and probability, independent events' probability, mutually exclusive events' probability)

*expected value and theoretical variance, standard deviation calculations* (based on a discrete theoretical distribution)

*linear regression* (Pearson's correlation coefficient and Pearson's coefficient of determination, equation and its parameters: slope and intercept, x and y value calculations based on a known y or x value)

***hypothesis tests:*** „real“ one sample t-test, paired t-test, 2 sample t-test, Wilcoxon signed rank test, Mann-Whitney U--test, chi-square test of independency (or homogeneity), chi-square test of fitting, correlation t-test

in general: *choosing the appropriate type of the hypothesis test* (based on a given text, dataset and information on normality if it is necessary: „fulfilled/not fulfilled“ or „ we made a normality hypothesis test that resulted a p=...“); *p-value calculation*; *decision on null hypothesis* (significance level will be given); *giving the type of the possible decision error*

additional: in the case of t-tests and chi square tests (both for independence and fitting tests): *parameter of the test calculations* (t, chi square values); *giving the degrees of freedom*

*diagnostic test's parameters calculations* (prevalence, sensitivity, specificity, positive predictive value, false reassurance rate, false discovery rate, negative predictive value, false negative rate, false positive rate, diagnostic efficiency)

In the case of 2x2 frequency tables: odds, risk, *odds ratio and risk ratio (relative risk) calculations*