

# EXAMPLE - Exponential Functions

The following example demonstrates how the exponential functions work together. These functions include the following:

- EXP -  $e^X$ . See *EXP Function*.
- LN - natural logarithm of the above. See *LN Function*.
- LOG -  $10^X$ . See *LOG Function*.
- POW -  $X^Y$ . The value X raised to the power Y. See *POW Function*.

## Source:

rowNum	X
1	-2
2	1
3	0
4	1
5	2
6	3
7	4
8	5

## Transformation:

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	EXP (X)
<b>Parameter: New column name</b>	'expX'

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	LN (expX)
<b>Parameter: New column name</b>	'ln_expX'

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	LOG (X)
<b>Parameter: New column name</b>	'logX'

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	POW (10,logX)
<b>Parameter: New column name</b>	'pow_logX'

**Results:**

In the following, (null value) indicates that a null value is generated for the computation.

rowNum	X	expX	ln_expX	logX	pow_logX
1	-2	0.1353352832366127	-2	(null value)	(null value)
2	-1	0.1353352832366127	-0.9999999999999998	(null value)	(null value)
3	0	1	0	(null value)	0
4	1	2.718281828459045	1	0	1
5	2	7.3890560989306495	2	0.30102999566398114	1.9999999999999998
6	3	20.085536923187668	3	0.47712125471966244	3
7	4	54.59815003314423	4	0.6020599913279623	3.999999999999999
8	5	148.41315910257657	5	0.6989700043360187	4.999999999999999