EXAMPLE - DEGREES and RADIANS Functions

This example illustrates to use the DEGREES and RADIANS functions to convert values from one unit of measure to the other.

- See *DEGREES Function*.
- See *RADIANS Function*.

Source:

In this example, the source data contains information about a set of isosceles triangles. Each triangle is listed in a separate row, with the listed value as the size of the non-congruent angle in the triangle in degrees.

You must calculate the measurement of all three angles of each isosceles triangle in radians.

triangle	a01
t01	30
t02	60
t03	90
t04	120
t05	150

Transformation:

You can convert the value for the non-congruent angle to radians using the following:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`ROUND(RADIANS(a01), 4)`
Parameter: New column name	`'r01'`

Now, calculate the value in degrees of the remaining two angles, which are congruent. Since the sum of all angles in a triangle is 180, the following formula can be applied to compute the size in degrees of each of these angles:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`(180 - a01) / 2`
Parameter: New column name	`'a02'`

Convert the above to radians:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`

Parameter: Formula	`ROUND(RADIANS(a02), 4)`
Parameter: New column name	`'r02'`

Create a second column for the other congruent angle:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`ROUND(RADIANS(a02), 4)`
Parameter: New column name	`'r03'`

To check accuracy, you sum all three columns and convert to degrees:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`ROUND(RADIANS(a02), 4)`
Parameter: New column name	`'checksum'`

Results:

After you delete the intermediate columns, you see the following results and determine the error in the checksum is acceptable:

triangle	a01	r03	r02	r01	checksum
t01	30	1.3095	1.3095	0.5238	179.9967
t02	60	1.0476	1.0476	1.0476	179.9967
t03	90	0.7857	0.7857	1.5714	179.9967
t04	120	0.5238	0.5238	2.0952	179.9967
t05	150	0.2619	0.2619	2.6190	179.9967