

Module 5

CREATE FINANCIAL FORMULA

Here we create the financial formula ANNUITY

**You have to work with the My Variable library for the
formula**

**For this formula we need 3 My Variables that we can
define ourselves**

We create the formulas: - ANNUITY

With this formula, we define the variables beforehand

1. Credit amount **CREDIT**,
2. the installment rate **Ir** and
3. the repayment period **Ny**

Block 1:
Formelname

Name	ANNUITY	Description	Repayment of credit debt
Category	Banking and Finance	Subcategory	Finance products

Block 2:
Editor + Rechner

```
AnnualRate = RND(CREDIT * (Ir * (1 + Ir)^Ny) / ((1 + Ir)^Ny - 1) / 5, 2) * 5
Costs = (AnnualRate * Ny) - CREDIT
```

Block 3:
**Variablen und
Rechts
Ergebnisse**

Formula Display

Show Errors

CREDIT	Credit	5000	USD		AnnualRate	1 186.98	USD
	Ir	6.00	%		Costs	934.910	USD
	Ny	5					

Significant numbers:

Calculate
Save
Back
Graph
Create MyVariable

We define the **My Variables** with the function “Create MyVariables” beforehand

1. Credit amount **CREDIT**,
2. the installment rate **Ir** and
3. the repayment period **Ny**

Variables used by ANNUITY

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Name	Description	Format	Unit	By default	Category	Subcategory
Ny	Number of years	numeric		5	Banking and Finance	all Subcategories
Ir	Interest rate per year	numeric	%	6.00	Banking and Finance	all Subcategories
CREDIT	Credit	numeric	USD	5000	Banking and Finance	all Subcategories

Variable: Ny

[Create MyVariable](#)

Data

Category	Banking and Finance	Subcategory	all Subcategories
Name	Enter variable name manually Ny	Description	Number of years
Format	numeric	Informations (Optional)	
Code	No	Tables	<input type="checkbox"/>
Default value		Unit definition	This variable has no unit
Constant value	Variable: Ir		

Data

Category	Banking and Finance	Subcategory	all Subcategories
Name	Enter variable name manually Ir	Description	Interest rate per year
Format	numeric	Informations (Optional)	
Code	No	Tables	<input type="checkbox"/>
Default value	6.00	Unit definition	Enter unit manually
Constant value		Unit	%
	Variable: CREDIT		

Data

Category	Banking and Finance	Subcategory	all Subcategories
Name	Enter variable name manually CREDIT	Description	Credit
Format	numeric	Informations (Optional)	
Code	No	Tables	<input type="checkbox"/>
Default value	5000	Unit definition	Enter unit manually
Constant value	No	Unit	USD
		Dimension	Currency
		Quantity	Currency

Create ANNUITY formula

Block 1: Definition of the formula

Press **My Formulas/Create**: Create an empty editor appears.
 Enter name: **ANNUITÄT** and Description: **Repayment of credit debt**
Category: Banking and Finance and **Subcategory: Finance products**
 enter.

By entering Category and Subcategory, we have defined which variables we have to work with.

Block 2: Enter the formula in the editor

Write text: **/* Calculates the annual repayment rate of a loan debt over a number of years. In addition, the costs incurred.*/**

Formula 1: $AnnualRate = RND(CREDIT * (Ir * (1 + Ir)^{Ny}) / ((1 + Ir)^{Ny} - 1) / 5, 2) * 5$

1. Result field: **AnnualRate** = write
2. Formula calculation: $RND(CREDIT * (Ir * (1 + Ir)^{Ny}) / ((1 + Ir)^{Ny} - 1))$ create together with the My Variables
3. 5 rounding: $/ 5, 2) * 5$ write together with **RND** at the beginning of the formula

Press the **Calculate** key

and with **Formula Display**
 check the formula address.

Variables & Constants		
Standardvariables		
My Variables		
CREDIT	Credit	[USD]
Ir	Interest rate per year	[%]
Ny	Number of years	

Formula Display

$$AnnualRate = rnd\left(CREDIT * \frac{(Ir * (1 + Ir)^{Ny})}{((1 + Ir)^{Ny} - 1)}, 2\right) * 5$$

Block 2: Enter the formula in the editor

Formula 2: $Costs = (AnnualRate * Ny) - CREDIT$

1. Result field: **Costs** = write
2. Write $(AnnualRate * Ny)$
3. Insert $- CREDIT$

Press the **Calculate** key

and with **Formula Display**
check the formula address.

Formula Display

$$Costs = (AnnualRate * Ny) - CREDIT$$

Block 3: Show **Variables** (left) and **Results** (right):

Show Errors	<input checked="" type="checkbox"/>	Significant numbers	<input type="text" value="6"/>
CREDIT	Credit	<input type="text" value="5000"/>	<input type="text" value="USD"/> ▾
Ir	Interest rate per year	<input type="text" value="6.00"/>	<input type="text" value="%"/> ▾
Ny	Number of years	<input type="text" value="5"/>	
	AnnualRate	<input type="text" value="1 186.98"/>	<input type="text" value="USD"/> ▾
	Costs	<input type="text" value="934.910"/>	<input type="text" value="USD"/> ▾