

Ćw. IV. MSExcel

 >>> Open file: excel_02.xls<<<

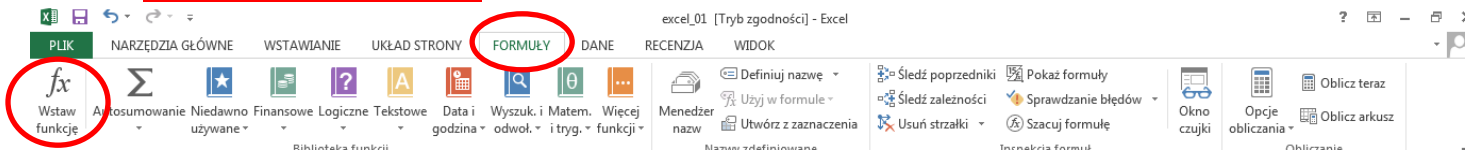
Task 1. Statistical functions

>>> go to sheet **f_statystyczne**. Fill in the missing formulas

1.a. Insert functions to calculate the selected statistical data



How to do it:



Task.2. Correlation

>>> go to sheet **korelacja** Fill in the missing formulas

2. A manufacturing company analyzes the production costs and their sources. There were identified two categories of factors that create costs:

- the production volume in thousands tons in year t ,
- the number of production workers

Check out which factor has greater impact on production costs (an increase of 1 unit will cause a greater increase in costs)



How to do it:

Find in statistical functions, correlation coefficient

Task 3. Creating a forecast based on the trend function

>>> go to sheet **trend** Fill in the missing formulas

2. The sales volume of cars in the showroom in Siedlce in recent quarters was presented below:

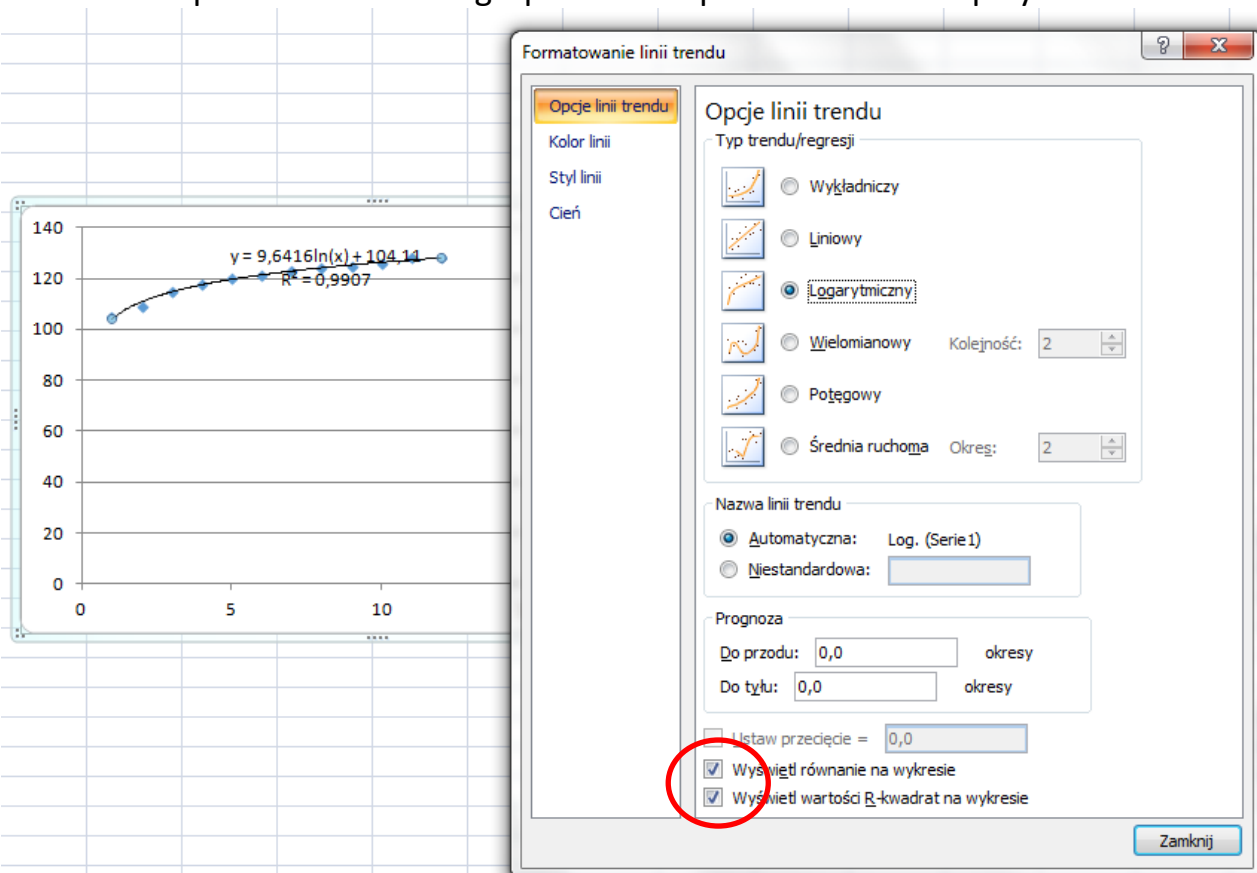
105	109	115	118	120	121	123	124	125	126	128	128
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Assuming that the factors affecting the sale will not change, appoint a sales forecast for the next 3 quarters.



How to do it:

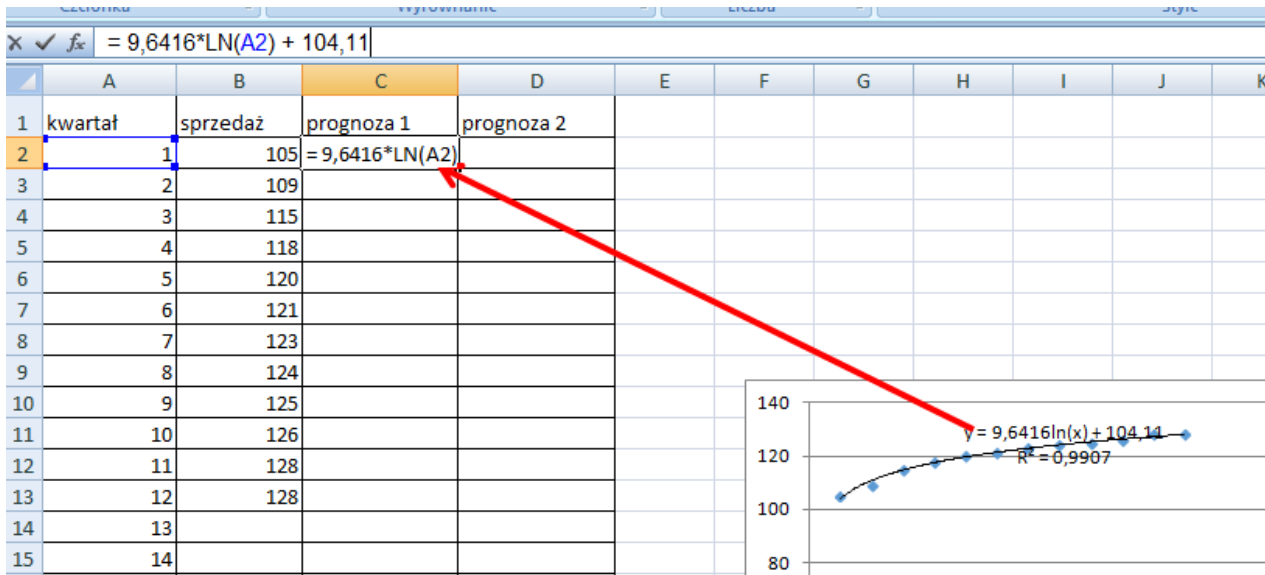
- Based on the data from the "trend" spreadsheet make a scatter plot.
- Since there is a trend and random fluctuation in the series, it can be used the function of the trend to forecast
- Right-click on a point of the graph and select Add trendline. Select options to view the graph of the equation and to display R^2 value



R^2 value inform us if the model fit to the data - the closer to 1, the stronger the fit.

Change the type of function to get the most value of R^2 .

Use the equation from the graph to calculate the projected sales value.



- 🌐 Drag the formula on forecast quarters
- 🌐 In a similar way do the forecast using other trend model (another function) with the highest value of R^2
- 🌐 On the basis of the mean square error rate, Which model is better to predict the studied phenomenon?

🌐 Task.4. Financial function

>>> go to sheet **f_finansowe**. Fill in the missing formulas

- 🌐 4.1. For the years 2014-2016 the company made an investment for the new production line that will bring revenues from 2016 until 2030. Enter the formulas for calculating
 - the net present value of the investment (NPV)
 - The internal rate of return (IRR)

🌐 Zad.5. Scenarios

>>> go to sheet **scenariusze** Fill in the missing formulas

In the worksheet, create four scenarios according to the table below

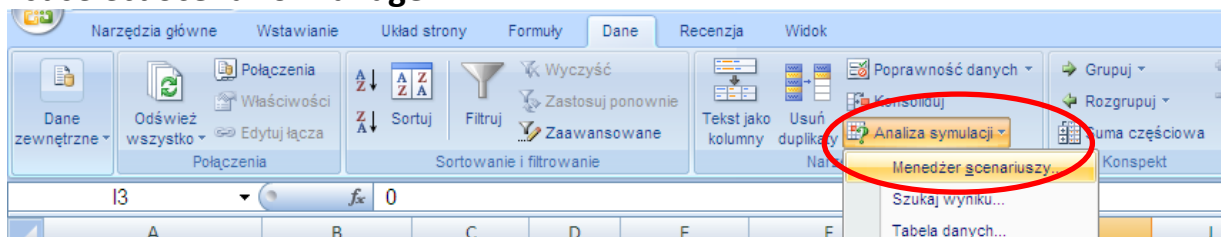
nazwa scenariusza	zmieniane komórki	komórki	wartości komórek
Premia – wariant I	J3:J6	J3	0%
		J4	2%
		J5	4%
		J6	6%
Premia – wariant II	J3:J6	J3	0%
		J4	1%
		J5	3%
		J6	5%
Premia – wariant III	J3:J6	J3	0%
		J4	3%
		J5	5%
		J6	7%
Premia – wariant IV	J3:J6	J3	0%
		J4	2%
		J5	6%
		J6	10%

The resulting cell range is: \$ E \$ 10: \$ F \$ 10, remember also to grant the appropriate name fields.

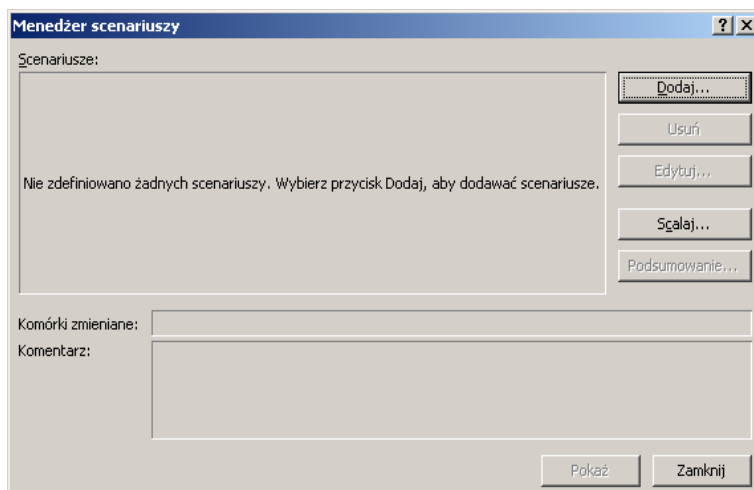


How to do it:

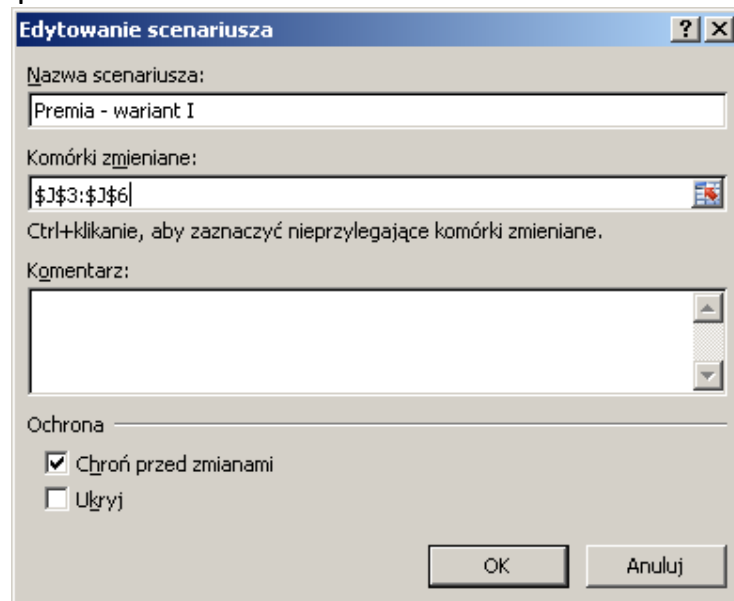
Scenarios is nothing like talking about it, "what would happen if ...". In order to perform a task, click the **Data** tab, then the **simulation analysis** and from the list select **Scenario Manager**.



Next in the window **Scenario Manager** choose the **Add button** to create a new scenario.



In the appearing dialog box, **add scenario** must fill in the fields specified in the specific values and click **OK**



Edytowanie scenariusza

Nazwa scenariusza:
Premia - wariant I

Komórki zmieniane:
\$J\$3:\$J\$6

Ctrl+klikanie, aby zaznaczyć nieprzylegające komórki zmieniane.

Komentarz:

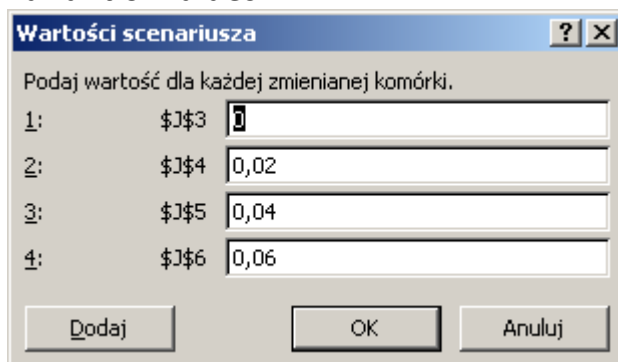
Ochrona

Chroń przed zmianami

Ukryj

OK Anuluj

In the **scenario values** box, complement data in accordance with the first variant of values.



Wartości scenariusza

Podaj wartość dla każdej zmienianej komórki.

1:	\$J\$3	0
2:	\$J\$4	0,02
3:	\$J\$5	0,04
4:	\$J\$6	0,06

Dodaj OK Anuluj

For the next scenarios repeat this sequence of operations.