

Worksheet -5

Subject: - Computer

Class: - VII

Teacher: - Mrs. Suudha Sharma

Name: _____ Class & Sec: _____ Roll No. _____

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Lesson 2: Functions and Manipulation in Excel

Each function type is used for different purpose as indicated by the name of the Function.

Text Functions:

Excel's Text Function help you to manage the text data in your spreadsheets.

Syntax	Purpose	Example
=concatenate(text1, text2)	Joins multiple text strings into one.	=concatenate("My", "Country") = MyCountry
=len(text)	Returns number of characters including spaces.	=len("Country") = 7
=lower(text)	Returns text in lower-case.	=lower("COUNTRY") = country
=upper(text)	Returns text in upper-case.	=upper("country") = COUNTRY
=right(text,n)	Returns n characters starting from the right side.	=right("COUNTRY",3) = TRY
=mid(text, start position, number of character)	Returns the mentioned number of characters, beginning from the starting position.	=mid("MY COUNTRY",4,5) = COUNT

Mathematical Functions:

Excel's Mathematical Functions can be used to perform common mathematical operations such as addition (Sum function), multiplication (Production), division and findings the square root.

Syntax	Purpose	Example
=Sum(num1,num2)	Returns the Sum value of the Arguments.	=sum(7,5) = 12
=Product(num1,num2)	Returns the Product of the values given as the Arguments.	=product(9,10,12) = 1080
=Mod(num1,num2)	Returns the Remainder, after dividing the num1 by the num2.	=mod(12,10) = 2
=Sqrt(num), num>0	Returns the Square root of the number.	=sqrt(4) = 2

Statistical Functions:

Excel's Statistical functions can be used to analysis the data in a spreadsheet. For example, they can be used to tell you the average value of your data or finding the maximum or minimum value within the selected data.

Syntax	Purpose	Example
average(num1,num2,...)	Returns the average of the Arguments.	=average(10,12,14) = 12
=max(num1,num2,...)	Returns the maximum value out of the Arguments.	=max(10,12,9,7) = 12
=min(num1,num2,...)	Returns the minimum value out of the Arguments.	=min(12,10,9,7) = 7

Logical Functions:

Excel's functions can be used to introduce decision making into your spreadsheet. In logical functions you pass the condition as the arguments and it will return the result as TRUE or FALSE according to the satisfaction of the criteria of the condition. Here, we will learn about the IF function.

IF Function:

= IF (logical_test, true_action, false_action)

Returns one value if a condition you specify evaluates to TRUE and another value if it evaluate to FALSE.

- logical_test is any value or expression that can be evaluated to TRUE or FALSE
- true_action is the value that is returned if the logical_test is TRUE.

- `false_action` is the value that is returned if the logical `_test` is FALSE.

Example: If James secures more than 70 marks, he will get a video game, otherwise he will get a camera. Let us suppose he secures 75 marks.

=IF (B>70, "VIDEO GAME", "CAMERA")

As is clear, James will get the video game.

	A	B
1	James	75
2		

Data Manipulation:

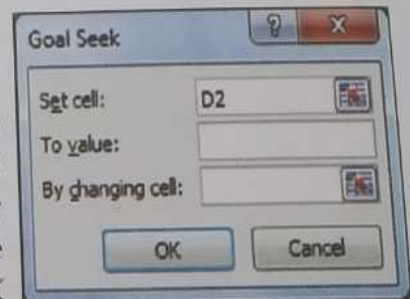
There are many options in MS Excel which will help in manipulation of data as required. For example, you can use the Goal Seek option to find a value to manipulate the result or you can filter out the records to be displayed, which match some specific criteria, or simply sort the data to arrange it into some order.

Using the Goal Seek

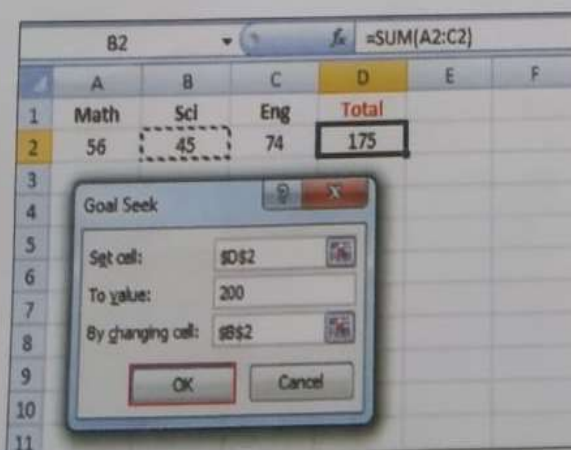
The Goal Seek option is used when you want to manipulate the result which you have obtained by applying some Formula. Follow the steps given to use the Goal Seek option.

Activity 1 To use the Goal Seek

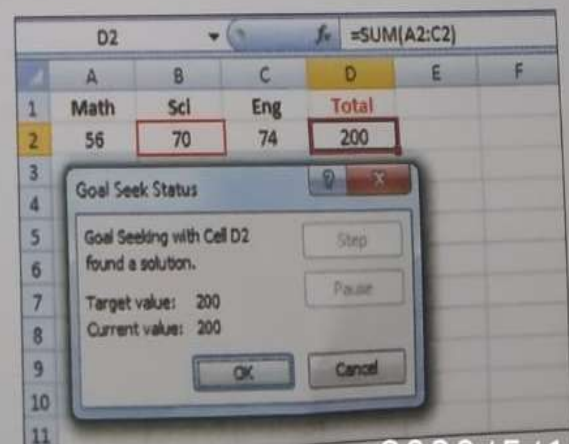
1. Click on the *Data* tab.
2. Click on the *What-if Analysis* arrowhead button. From the drop-down list, select the *Goal Seek* option.
3. The *Goal Seek* dialog box opens.
 - a. In the *Set cell* text box, specify the cell address where you have entered the formula to calculate the result Or place the cursor in the *Set cell* text box and click on the cell whose value you want to fix where you have entered the formula.
 - b. In the *To value* text box, enter the final value, which you want to obtain.
 - c. In the *By changing cell* text box, enter the cell address by changing the value for which you want to obtain the required result from or place the cursor in the *By changing cell* text box and click on that particular cell whose value you want to change. The cell address will be automatically filled in the *By changing cell* text box. Click on the *OK* button.



Example To set the total to 200 by changing the Science Marks (cell B2).



The values defined



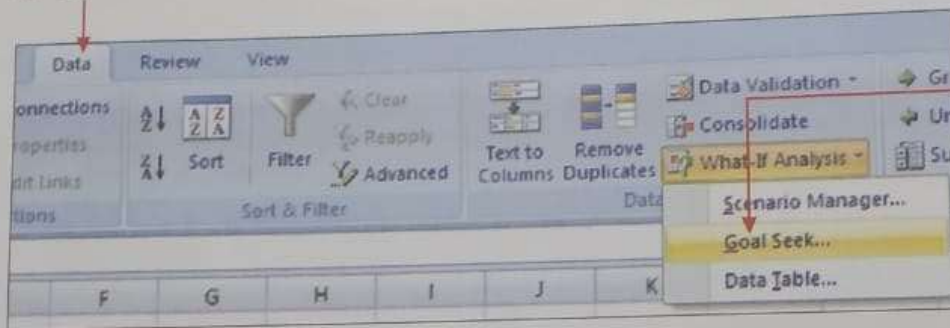
The final result 2020/5/15

Example You have obtained 191 marks as the result of the total obtained as the sum of marks in 3 subjects. But you needed 240 marks in total to get a distinction. You can check how many marks you require, in any particular subject (let us say English) to achieve the total of 240.

1. Enter the marks in the three different subjects and apply the formula to find their total in the Cell D2.

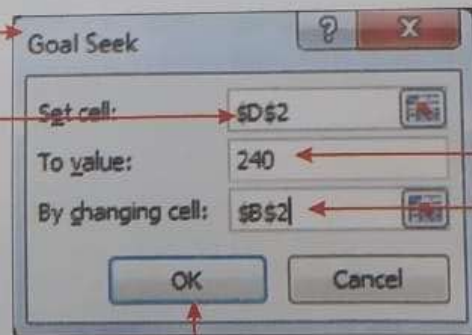
	A	B	C	D	E
1	Math	English	Science	Total	
2	73	45	73	191	
3					

2. Click on the *Data* tab.



3. Click on the *What-if Analysis* arrowhead button. From the drop down list, select the *Goal Seek* option.

4. The *Goal Seek* dialog box will appear in front of you.



5. In the *Set cell* text box, check that the address of the cell where the formula is entered, is there.

6. In the *To value* text box, enter the required value you need to obtain from the Formula.

7. In the *By changing cell* text box, enter the cell address of the cell which you want to change, (in this case, it will be Cell B2) to achieve the required result or, simply click in that particular cell and the cell address (here, \$B\$2) will be filled automatically.

8. Click on the *OK* button.



You will get the required value for the Cell B2, which will calculate the result as 240.

Q1: Match the result with the function statement

- | | |
|------------------------------|-------|
| 1. Product (25, 5) | 5 |
| 2. Sqrt (25) | Count |
| 3. Left ("My country", 2) | 125 |
| 4. Mid ("Mid country", 4, 5) | My |

Q2. Write function name:

1. Return number of characters including spaces.
2. To perform common mathematical function.
3. To analysis (IF_ THEN_ ELSE) the data in a spreadsheet.
4. Returns n characters starting from the right side.
5. Returns square root of the number.

Q3. Fill in the blanks:

1. _____ sign is used to begin a function.
2. Concatenate is an example of _____ function.

Q4. Tick (√) the correct statement:

1. In the function = SUM (A1:A12), the argument is SUM. ()
2. The sqrt (Num 1) function returns the Square of the number Num 1. ()
3. The = max (num1, num2, ...) function return the maximum value out of the Arguments. ()
4. The = average (12, 14, 16) will give the result 16. ()
5. The logical functions return the result as True or False. ()

Q5: Answer the following:

1. You have to decide on an output depending on the result which you get from a cell. Which function category and its function will you apply?
2. Write one example for the syntax for joining multiple text strings into one.
3. Write one example for the syntax for returning text in lower-case.
4. Write the syntax used for returning the sum value of the Arguments.
5. Name the five categories of functions. Explain any three functions from any three categories.
6. What is the Goal Seek option and how is it useful?

Answers:

Q1: Match the result with the function statement

- | | |
|-----------------------------|-------|
| 1. Product (25, 5) | 125 |
| 2. Sqrt (25) | 5 |
| 3. Left("My country",2) | My |
| 4. Mid ("Mid country", 4,5) | Count |

Q2. Write function name:

1. Return number of characters including spaces. =len (text)
2. To perform common mathematical function. Mathematical function
3. To analysis (IF_ THEN_ ELSE) the data in a spreadsheet. Logical Functions
4. Returns n characters starting from the right side. =Right (text, n)
5. Returns square root of the number. Sqrt

Q3. Fill in the blanks:

1. =
2. Text

Q4. Tick (√) the correct statement:

1. ×
2. ×
3. √
4. ×
5. √

Q5: Answer the following:

1. Category = Logical Function, function name = IF function
2. =concatenate ("My", " Country") output will be:- MyCountry
3. =lower("AMERICA") output will be:- america
4. =sum(num 1, num 2)
5. Function can be broadly classified in the following categories:
 - i. Text Functions
 - ii. Mathematical Functions
 - iii. Statistical Functions
 - iv. Date & Time Functions
 - v. Logical Functions

Syntax	Purpose	Example
=len(text)	Returns number of characters including spaces.	=len("Country") = 7
=Product(num1,num2)	Returns the Product of the values given as the Arguments.	=product(9,10,12) = 1080
average(num1,num2....)	Returns the average of the Arguments.	=average(10,12,14) = 12