

# Date Calculations

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In this chapter you will look at some spreadsheet applications that involve doing calculations on dates. It will involve more detailed IF statements. You will complete prepared spreadsheets for a library book overdues system and a debt collection company.

## Creating a Library Book Overdue System

A school library needs a simple overdue books table. It should calculate automatically the return date and any overdue fees that need to be charged on borrowed books. Three weeks is the borrowing period after which 5 cents is charged for each day the book is overdue. All the librarian should need to do is enter the Borrow Date, the book's accession number and the student's name, after which the overdue list should complete itself.

## Opening the Prepared Spreadsheet

- 1 Load Google Sheets then display the FILE menu and select OPEN.
- 2 Click on UPLOAD followed by SELECT A FILE FROM YOUR COMPUTER.
- 3 Access the SHEETS SUPPORT FILES, open the CHAPTER 16 folder and load the file:

Library Overdues

- 4 The spreadsheet has two worksheets:
  - The OVERDUES sheet, which will keep track of which books are overdue.
  - The BOOK LIST sheet, which is a list of the books that the school has.

Look at both worksheets.

## Naming the Book List

To make the formulas easier to understand the Book List should be named and sorted.

1 Open the BOOK LIST sheet, highlight cells A7 to C16 then display the DATA menu and select NAMED RANGES.

BOOK ACCESS No	BOOK TITLE	AUTHOR
100.9Dal	England My England	Daley
101.7Sam	Computers at Work	Sampson
102.1Far	Legal Action	Faraday
102.9Mil	Maths in Action	Miller
105.0Gal	Crime and Society	Gallagher
105.4Jon	The Royal Family	Jones
106.2ban	School's In	Bannon
108.2Wil	Home Finance	Willoughby
112.6Or	Stepping Out	O'Reilly
114.5Law	The Gold Rush	Lawson

2 In the NAMED RANGES pane, enter: Books and click on DONE.

3 With the cells still highlighted, display the DATA menu and select SORT RANGES BY COLUMN A, A-Z to sort the cells into BOOK ACCESS. No. order so that lookup formulas can be used on the table.

BOOK ACCESS No	BOOK TITLE	AUTHOR
100.9Dal	England My England	Daley
101.7Sam	Computers at Work	Sampson
102.1Far	Legal Action	Faraday
102.9Mil	Maths in Action	Miller
105.0Gal	Crime and Society	Gallagher
105.4Jon	The Royal Family	Jones
106.2ban	School's In	Bannon
108.2Wil	Home Finance	Willoughby
112.6Or	Stepping Out	O'Reilly
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## Looking up the Book Title and Author

The BOOK TITLE and AUTHOR can be inserted into the OVERDUES sheet using the VLOOKUP command.

- 1 Return to the OVERDUES worksheet.

Library Overdues

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

102.1Far

1 MAKE BELIEVE HIGH SCHOOL LIBRARY OVERDUES

2

3

4

5 Today's Date:

6

7

8 BORROW DATE STUDENT BOOK ACCESS No. BOOK TITLE AUTHOR RETURN DATE OVERDUE CHARGE

9 102.1Far

10

2 Enter the test BOOK ACCESS. No. in cell C9:  
102.1Far

- 3 The Book Title is found by a formula that checks whether a book accession number has been entered, then looks up the BOOKS table and displays the Book Title (COLUMN 2), otherwise a blank cell is displayed.

Library Overdues

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=IF(C9<>"",VLOOKUP(C9,Books,2), "")

1 MAKE BELIEVE HIGH SCHOOL LIBRARY OVERDUES

2

3

4

5 Today's Date:

6

7

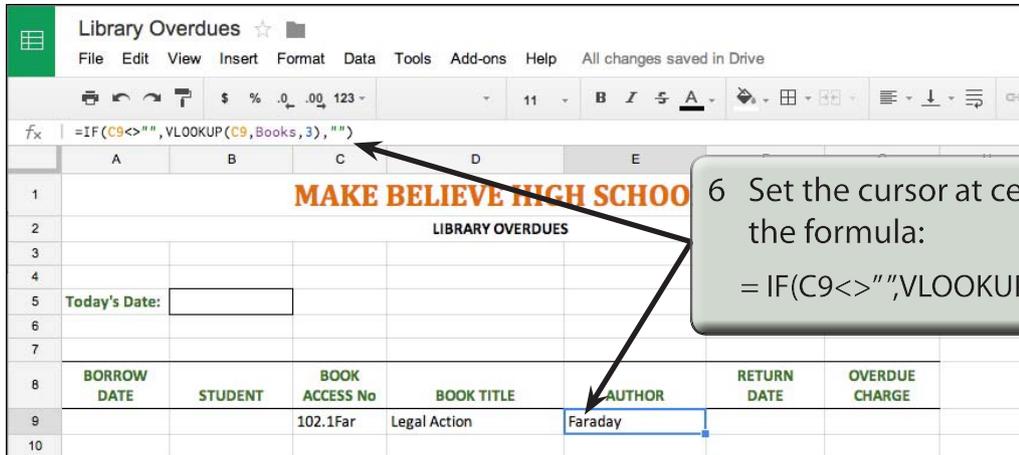
8 BORROW DATE STUDENT BOOK ACCESS No. BOOK TITLE AUTHOR RETURN DATE OVERDUE CHARGE

9 102.1Far Legal Action

10

4 Set the cursor at cell D9 and enter the formula:  
=IF(C9<>"",VLOOKUP(C9,BOOKS,2), "")

- The Book Author is obtained through a similar formula to the Book Title, except that COLUMN 3 is used.

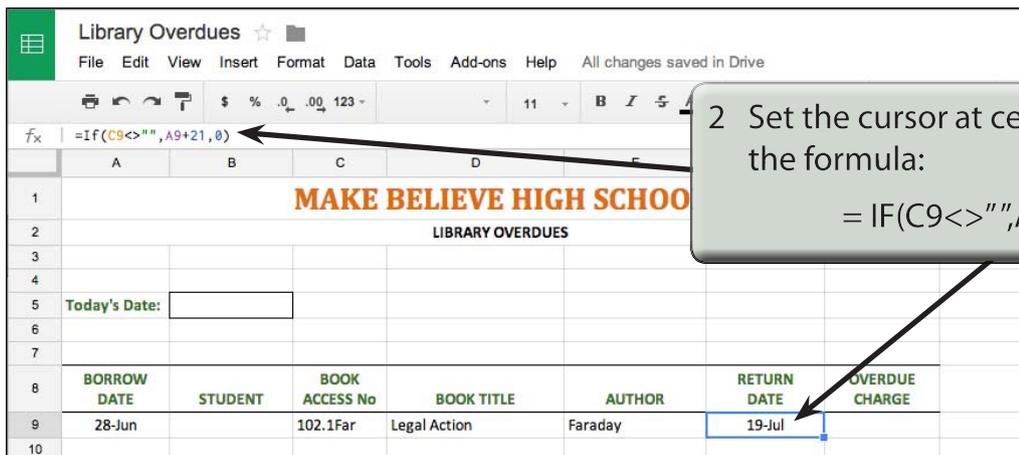


6 Set the cursor at cell E9 and enter the formula:  
`= IF(C9<>'',VLOOKUP(C9,BOOKS,3),'')`

## Calculating the Return Date

The RETURN DATE is calculated if an accession number has been entered. It is the BORROW DATE plus 21.

- Click in cell A9 and enter the Borrow Date: 28 Jun



2 Set the cursor at cell F9 and enter the formula:  
`= IF(C9<>'',A9+21,0)`

**NOTE:** Because the result is a calculation, 0 is used instead of "" in the OTHERWISE section of the IF formula.