



# ICAEW Excel 16 Absolute refs

In this video, I want to talk to you about absolute cell referencing in Excel, which is an essential skill if you want to get the most out of your spreadsheets.

Best illustrated with an example. What we have in front of us is a loan over a number of years. We've got ten years here, at an interest rate of 3%. And you can see it looks like some kind of amortising loan that's being repaid, and our aim is to calculate the interest in each of the years. So it's simply going to be equal to 3% of the loan balances at the start of the period. So, period one, we just multiply the 3% by the 1,000 - 3% multiplied by the 1000, and that is the correct answer. Now, the problem we've now got is that we don't want to have to do that in every single year, so we want to copy and paste across to the right and have it work in each of the of the cells. When we do that, copy and paste to the right, it does not work. So why has this not worked?

Well, you can see clearly that as we've pasted across to the right, all the cell references have moved to the right with us. And that cell reference, the blue on there on the 3%, we did not want it to move from cell C5 and it has moved. The red cell references. we do want those to move with us. So, we need a method of telling Excel whether we want the cell reference to move or not when we copy paste the formula somewhere else.

Now the way this is done, so this was my original equation, which is just the two cells multiplied by each other. The red cell reference there, the C8, I want that to move so I leave it alone, I do nothing with it. The blue cell reference here, I applied dollars to this cell reference which will pin it down and will fix it. Now, if you're using Excel this you do this with the function 4 key. If you're using SpreadJS, you need to type the dollars in yourself. So I'm going to do this right now and a dollar goes before whatever we want to anchor.

So I want to pin this into column C and into row 5. So that's a dollar before the C and a dollar before the 5. What I end up with is this - dollar C dollar 5 multiplied by C8 - and now this will paste across to the right and it will work in each of the cells. Perfect. So that's basic absolute cell referencing if you want to pin down a cell so it never moves anywhere.

Example two, slightly more sophisticated. Here we've got cash flows across here that we want to allocate to two investors. Investor A and investor B. Investor A is getting 40%. Investor B is getting 60%. So again, if I was to simply work out investor A's cash flows in the first period, it will be equal to this, multiplied by this. And if I copy and paste this across the area, it's not going to work for the same reason. I just get nonsense because my cell references are all moved. But this time it's a bit more complicated because if we look at this, okay, so I'm going to make this equal to the 40% of the cash flow. All right, let's have a look at this. So as well as being able to apply full dollars, that's two dollars, to pin a cell down, we can apply only one dollar on either the row or the column. And then rather than pinning the cell reference down, it will then slide along the row or up and down the column.

So let me illustrate with this. Now, let's look first at the B32 reference here, the B32, that's the 40%. Now, as I paste this formula both across and down, do I want that blue cell reference to move? Well, yes, I do. I want it to move up and down so it comes down to the 60%. But I do not want it to move out of column B, I

want to pin it into column B. So whatever you want to pin down needs a dollar in front of it. So that's the dollar in front of the column B, so that reads dollar B 32.

Now let's have a think about the red cell reference, the C 28. Do I want that cell reference to move as I paste this formula both across and down? Well, yes, I do want it to move across the row, across row 28, but I do not want it to leave row 28. I don't want it to come down as I paste down into investor B's numbers. So I've got to pin the row. I've got to pin that row 28. So what I'm looking for here is C dollar 28. So I'm going to type a dollar in there. And hopefully this will do the job if I now copy and paste this across the whole area. That's what I was hoping to achieve.

So dollarisation, absolute self referencing, very important. You can apply those dollars with function 4 if you're using standard Excel. If you're using spreadJS, you cannot. You need to type the dollars in yourself. Two dollars will pin the cell so it will never move anywhere. You're pinning the row and the column. One dollar on the row will pin it into the row, one dollar on the column will pin it into the column.