



ICAEW Excel 16 Absolute refs

In this video, I'm going to talk to you about absolute cell referencing in Excel. Absolute cell referencing is an essential skill to be able to perform in Excel. If you want to generate any kind of formulae or functions that you would then want to copy and paste somewhere else and have that formula or function still work.

This is best illustrated with an example which we will go through now. Here we have a loan over a 10 year time horizon. So the loan starts, if you look at eight, where the loan starts out at one thousand, and then it looks like the loan is to some extent being repaid as time goes by. So the loan balance falls over the 10 years from 1,000 to 900 and so on, until we get down to three, eight, seven at the end, All we want to do is we want to calculate the interest in each of the periods, let's imagine the periods are years. We've got an interest rate of three percent up in cell C5. So, the interest rate is going to be three percent of the loan balance. So that's very straightforward. I can come into some here, see C10 and I can calculate equal to, three percent of multiplied by, that's the asterisk, the one thousand. And that will give me the correct answer. The answer is 30. Now, obviously at this point I could do the same again in column D and make this equal to three percent of the 900. And I could do this 10 times. That's going to take me a long time. Wouldn't it be better if I could take the original formula and just copy and paste it across to the right?

OK, so let's try and copy and paste this across to the right somewhere. I can do this with the mouse. I can do this just by clicking and dragging. I'm going to click on the little box there drag it across to the right. And this is copy and paste to the right. And we end up with this, which is not what we were hoping for. So why has this not worked? Let's have a look at this one here, for example. So that's the formula in that cell there. Can you see, and this is the importance bit, can you see the both of the cell references, the blue and the red, have moved to the right with me as we've pasted the formula across to the right. Now the red cell reference, which is the low balance, I did want that to move to the right. So it's pointing to seventy-nine, which is where I want it to be pointing to. However, the Blue Cell reference has moved away from Cell C5, the three percent, and I did not want it to move away from cell C5. So I need a method by which I can tell Excel that I don't want that blue cell reference to move when I paste this formula across to the right. And that's what absolute cell referencing is all about. And I'll show you now how it's done.

I'm going to start again, equal to, the three percent. Now the way this works is that we dollarise the C5 cell reference, in other words, we apply dollars to it. So I don't want to see C5. I want to see dollar C, dollar five. Now, I can just tap function 4 to do this, which is a short cut, but I'm going to show you the long way around so you can see the detail of how this is done. So it's equal to C5 multiplied by C8, which is what we had last time. I'm going to enter. So I know this is not going to work because there's no dollars. So I'm now sitting on the cell reference there. I can double click on this here to play around with this formula now. So I'm clicking in the formula and I'm playing around with it. I want to apply dollars, now the way I do this, I go to the very front, so between the equals and the C and I type in a dollar sign and then I go between the C and the five and I type in another dollar sign. And so I end up with the same formula, but you can see that, that the C5 has

got dollars on it, so that's my message to excel that I want that C5 reference to stay where it is. Now, having done that and I copy and paste this across the right by clicking and dragging, this should work well. And there you go. So you can see that the blue cell reference to C5, stays where it is.

So that is absolute cell referencing full dollars, dollars on both the column and the row. As you can see there are two dollar signs there, one is before the C and one is before the five. The first dollar locks that cell reference into column C and the second dollar locks the cell reference into row five. So clearly the cell is locked into row five. People say it's anchored into C five, so it will never move. So that's the basics of absolute cell referencing.

Now, in addition to that, we need to be aware of the situation where maybe we don't want to see both dollars on a cell reference, but maybe we want to see just one of the dollars. And this is an example of this here. So if you look at example two, we've got cash flows again, we've got investor A, and investor B. Investor A will be contributing 40 percent of these cash flows, the total. And investor B will be contributing 60 percent of the cash flows. So, the formula here again, so I'll do this first and it will not work and then I will fix it. So the formula here is going to be we want to see 40 percent of multiplied by the cash flows. So that's the right answer. Forty six is the correct answer. That's 40 percent of one, one six. However, this formula, because it's got no dollars on it, will not work if I paste it across this whole area. So, again, copy and paste, there's lots of different ways of copying and pasting. I'm just showing a simple way here. We're going to click and drag with the mouse so I can click and drag across and then I'm going to click and drag down. And you can see straightaway that it doesn't look like it's worked at all because we've got nonsense in most of those cells. There you go. So I can see now that my blue cell reference has moved, that blue cell reference should be pointing to the 60 percent the red cell reference has moved, that red cell reference should be pointing to the nine, eight, one. So the cell reference is moved and I need to apply dollars so that those cell references do not move, so that they're locked. But with this example here, we don't want to fully lock them down. We want to lock them down either into a row or into a column. And so this is where we can have partial dollarisation, dollarisation on the row or the column.

Let me illustrate. I'm going to start again equal to the 40 percent of the one, one, six. So that's my basic formula. And there's nothing wrong with that formula. All I need to do now is I need to apply dollars to it. Let's have a look at the blue cell reference, that's the B31. Let's think about that cell reference. As we paste this formula around the place what do we want to happen to that cell reference? We want it to be able to move up and down to the forty and the sixty. But we never wanted to leave column B, we've got to anchor it into column B. The dollar will come before whatever we want to anchor in this case, the B, so we want to see dollar B31. When I click in there for dollar sign and that will give me dollar B31. Which is different from last time, because remember last time we had two dollars, so here there's no dollar in the middle between the B and the 31.

Now let's have a think about the red cell reference, C 27. How do we want that cell reference to move as we place this formula around the place? We want it to move horizontally across row 27. We want to lock it, anchor it, into row 27. So it's the 27 that we want to pin. So we what we want to see here is C dollar 27. Remember, the dollar comes before whatever you want to see pinned. In this case it's row 27. So here you type a dollar sign, between the C and the 27. And, as I say, that there's a shortcut function 4 to apply those dollars but I'm deliberately doing this the long way

round so you can see the detail of what's actually happening here. OK, so this formula, hopefully now not only does it give me give me the right answer, but I should be able to paste it to the right and I should be able to paste it down and it should give me the right answer in all cells. I'm going to click and drag across to the right. So that looks promising. And then I can click and drag it down and there you go. So you can see these are the correct answers. So let's try this one. For example, what's happening in this cell here? I can see it's 60 percent, nine, three, three, which is the correct answer.

So to summarise dollars, really important in absolute cell referencing, if you're pointing to a cell in a formula that's going to be pasted somewhere else and you don't want that cell to ever move, you apply full dollars, dollars on the row, dollars on the column. If you want the cell to slide up and down the same column, you need to dollarise the column. That's just one dollar on the column. And if you want the cell to slide horizontally across the row, you need to apply one dollar to the row. And as I say, it's really important if you want to save yourself, I mean, clearly here I could have typed in 20 separate formulae, but I don't want to be typing in 20 separate formulae when I can just come up with one formula with the correct dollars applied and that formula will based across the whole area.