ICAEW Excel 06 IRR

In this video, I'm going to talk to you about the IRR function in Excel, which will calculate the internal rate of return of a stream of cash flows. So the internal rate of return being the discount rate, which returns a zero net present value.

Here on the left, we've got 10 years worth of cash flows. And you can see we've got an initial investment of 10000 that's cash out and then we've got positive cash flows following on from that. So, what is the internal rate of return of this investment? Effectively, it's the overall effective rate of return, annual rate of return, on the investment of 10,000. We can calculate it using the IRR function. You can see here, it's relatively simple. It's just simply equals, IRR. And then you point to the cash flows. Comma, guess, I will talk about that in a minute. The guess element.

So, let's try this equals, IRR, open brackets , values, I'm going to point to the values and, talking about the cash in a minute, I'm going to ignore the guess for the moment. I'm just going to close my brackets and see what we end up with. So, we end up with twenty point three percent, which is the correct answer. Now, there's two other points that I should make at this point. So, the first is the guess. Here, I've not included a guess, if I would have done... So, let's try again but I'm going to include a guess. So, equals, IRR, open brackets, point to the cash flows, comma, 10 percent, close brackets, that's my guess. You can see it makes no difference. So usually with IRR, you don't need to make a guess. The reason it's there is that for certain streams of cash flows, particularly if you've got positives, followed by negatives, followed by positives, followed by negatives, there might be more than one internal rate of return and guess gives the Excel functionality a starting point with which to most effectively find the internal rate of return that you're looking for. It's quite complicated. It's a bit above and beyond what we're talking about in this video, but that's what the guess element is there for.

The second thing to mention, as it says, bottom right, is that zero cash flow must be hard code zero rather than the empty cell. So, in other words, imagine if in the middle of this period, so periods four, five and six, there was no cash flows. You might imagine that simply deleting the numbers in those cells would provide the right answer. So, if these were zeros, there was no cash flows and the answer is fourteen point two. Well, IRR doesn't like that and you need to be very careful with this. IRR will point to the cash flows and if there is no cash flow, you need to hard code to zero rather than leaving empty cells. So I'm going to replace the empty cells now with zeros and you will see the IRR move and we'll get to the right answer because fourteen point two is the wrong answer. Hard code a zero, IRR changes, hard code a zero, hard code a zero. So that now is correct because I've hard coded zeros. It was incorrect previously when I'd left empty cells.

So there you go, at its simplest, equals, IRR, point to the cash flows and that will return the internal rate of return of a stream of cash flows.