

# CashCalc Specification Sheets (Client Facing)

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## Rental Yield Calculator

### Overview

The Rental Yield Calculator is used to show the client the value of the asset and their cash account over a specified period. This calculator takes information about the asset and any expenses, charges or voids. The asset information includes the name of the asset, its current value, cash account value, assumed asset income, annual or monthly, and assumed asset growth rate. Each expense has a description, annual amount, whether it a one-off expense and the start and end dates of the expenses.

### Assumptions

Below is a list of all assumptions made in order to perform the calculation:

- Figures are rounded up to the nearest pound
- Assumed Asset Growth has a range between 0.00% and 10.00% (Default: 5.00%)
- Assumed inflation rate has a range between 0.00% and 10.00% (Default: 2.00%)
- Maximum term: 30 years (Default: 15 years)
- All amounts taken are annual
- Start date is from the date forecast creation
- Values shown in today's terms

### Calculations Breakdown

The calculations require seven parameters in order to calculate the given output, these being:

- Asset Value
- Cash Account Value
- Assumed Asset Income %/£
- Assumed Asset Growth %
- Total Annual Expense
- Years of expenses
- One-off expense?

The Rental Yield Calculator uses these inputs to calculate Total Income, Total Expenditure, Gross Rental Yield, Total Gross Yield, Net Yield, Cash Account at year end, Asset Value at year end and the total yield from the asset.

The total income for each year comes from the value set in Assumed Asset Income, which can be either an assumed percentage (%) or an assumed annual value (£) which is fixed. The income for each year if the annual income is a percentage is calculated with the following:

$$\text{Income for Year} = \text{Asset Value} * \text{Assumed Asset Income} \%$$

The total expenditure for each year comes from taking a total of each expenditure listed for the specified year. As multiple expenses can be listed, this calculator takes a running total of each expense that occurs for that year, including one-off payments.

The Gross Rental Yield is determined by the Assumed Asset Income, if this is set to a percentage, then the Gross Rental Yield is fixed at this value. If the Assumed Asset Income is set to a numerical value, then the Gross Rental Yield is calculated with the following:

$$\text{Gross Rental Yield for year} = \frac{\text{Income For Year}}{\text{Asset Value}} \times 100$$

The Total Gross Yield is calculated by adding the Gross Rental Yield for the year and the Assumed Asset Growth together and subtracting the Assumed inflation rate. Following is this calculation:

$$\text{Total Gross Yield} = \text{Gross Rental Yield} + \text{Assumed Asset Growth} - \text{Assumed inflation rate}$$

The Net Yield is calculated by subtracting the annual Total Expenses from the annual Total Income and then dividing the product by the Asset Value and converting it into a percentage. The result of this is added to the Assumed Asset Growth. This is calculated using the following:

$$\text{Net Yield} = \text{Assumed Asset Growth} + \frac{(\text{Total Income} - \text{Total Expenses})}{\text{Asset Value}} \times 100$$

The Cash Account at year end is calculated by adding the difference between the annual income and annual expenditures to the value of the Cash Account at the start of the year. This is calculated using the following:

$$\text{Cash Account at end} = \text{Cash Account at start} + (\text{Total Income} - \text{Total Expenses})$$

The Asset Value at year end is calculated by increasing the value by the assumed asset growth %. This is calculated using the following:

$$\text{Asset Value at end} = \text{Asset Value at start} * \left(1 + \frac{\text{Assumed Asset Growth}}{100}\right)$$

These values will be plotted onto a graph showing the combined value of growth of the asset value and the cash account value. A tabulated version will also display with a year-by-year breakdown of each calculation across the set term.

A PDF report can be created from this calculator which contains detailed information about the relevant client's details and the outputs of the calculations performed. The data plotted in graphical form is created by using the GoogleChartAPI.