Prospects

(Note: It is assumed that the interest rates are in their original multiplicative forms, not in percentages.)

Let
$P = Investment\ principal$
$C_t = Cash\ inflow\ at\ a\ particular\ period, t.$
$i = Interest\ rate\ of\ return$
$n = Number\ of\ periods$

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a) NPV (Normal Present Value)

The formula to calculate the NPV is as follows:

$$NPV = \sum_{t=1}^{n} \frac{C_t}{(1+i)^t} - P$$

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b) IRR (Internal Rate of Return)

The IRR is the interest rate, i, when the NPV is approximately zero. The program uses a trial-and-error method to estimate the IRR with an error margin of 0.01 and also an indefinite number of iterations.

$$0 = \sum_{t=1}^{n} \frac{C_t}{(1+i)^t} - P$$