**TVM:**

**Present Value:**

or

Present Value of a cash flow stream:

or

**Future Value:**

or

Future Value of a cash flow stream:

or

Present Value of Annuity:

Future Value of Annuity:

TVM Calculator:

Its purpose is to solve below equation given 4 of the 5 variables,

* PV is the present value (at t=0)
* FV is the future value (at t=N)
* r is the internal rate of return (or the discounting rate)
* N is the number of periods
* PMT is the annuity, i.e. constant inflow per period
* *Note: N, r and PMT frequency must be consistent*

Solving PV (closed formula):

Solving FV (closed formula):

Solving PMT (closed formula):

Solving for N and r requires an iterative method to equate the below,