Price = Appraised value of the property at $t = 0$
AR = Average annual appreciation rate of the property
N = Total mortgage payment installments in months
i = Periodic (monthly) interest rate
N = Total mortgage payment installments in months
t = Time in months or mortgage payments made
Pr_0 = Principal balance on the mortgage at $t = 0$
N = Total payment installments on the amortization schedule
i = Periodic (monthly) interest rate, (yearly rate / 12)

Net Equity Under Ownership after t

$$\text{Price} \cdot (1+AR)^{(t/12)} - Pr_0 - t \cdot Pr_0 \cdot \frac{\left(i \cdot (1+i)^N\right)}{(1+i)^N - 1} + \left[t \cdot \left(Pr_0 \cdot \frac{\left(i \cdot (1+i)^N\right)}{(1+i)^N - 1} \right) - \sum_1^t \left(Pr_0 \cdot \frac{\left(i \cdot (1+i)^N\right)}{(1+i)^N - 1} - i \cdot Pr_0 \cdot (1+i)^{t-1} \right) \right]$$

Cumulative Interest Paid at time t

$$(x \cdot t) - \sum_1^t \left(Pr_0 \cdot \frac{\left(i \cdot (1+i)^N\right)}{(1+i)^N - 1} - i \cdot Pr_0 \cdot (1+i)^{t-1} \right)$$

Total Profit = Net Equity - Cumulative Interest Paid + Cumulative Net Operating Income - Cumulative Net Expenses

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In the case of a cash-out refinance at $t = 0$, the following formulas can be amended by subtracting the cash-out loan amount from the principal amount Pr_0 for a new principal amount Pr_0^*

$$Pr_0 - (Cash\ Out\ Loan) = Pr_0^*$$