

3.5: Solving for PMT, I/YR, or N

Sometimes you may need to find something other than the present value or future value. For instance, you may want to know how much you have to save per year to reach a certain future value (or how much you must earn as a rate of return or how many years it will take). If you are using a financial calculator, these are relatively easy. For example, assume you have \$2000 saved already and want to save another \$5000 per year to accumulate \$80,000 after 10 years. What rate of return must you earn?

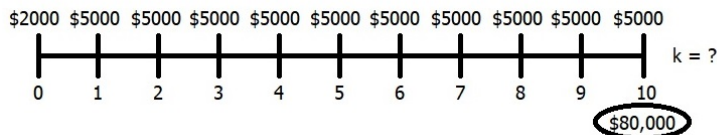


Figure 3.5.2: Rate of return needed to eary a fixed amount

Calculator Steps for the Solution

HP10BII	TI-BAII+	TI-83/84
Step 1: 10 N	Step 1: 10 N	
Step 2: 80000 FV	Step 2: 80000 FV	Go to APPS⇒Finance⇒ TVM_Solver
Step 3: -5000 PMT	Step 3: -5000 PMT	Step 1: 10 N
Step 4: -2000 PV	Step 4: -2000 PV	Step 2: 80000 FV
Step 5: I/YR	Step 5: Press the CPT key	Step 3: -5000 PMT
	Step 6: Press the I/YR key	Step 4: -2000 PV
		Step 5: Move to I% line and press the ALPHA SOLVE key

Solution = 8.83%

Reminder: Either the PMT must be negative and the FV positive or the PMT positive and the FV negative. It doesn't matter which way you do it, but one must be negative and the other positive.

Solving for N and PMT is done along similar lines.

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