

Return	0.1
Current	\$ 50,000
Deposits	\$ 10,000
Withdrawals	\$ 37,348

$$=(B2*(1+B1)^5 + FV(B1,5,-B3))/PV(B1,5,-1)$$

Year	Beginning Balance	Return	Gain (Loss)	Deposit (Withdrawal)
1	\$ 50,000	0.1	\$ 5,000	\$ 10,000
2	\$ 65,000	0.1	\$ 6,500	\$ 10,000
3	\$ 81,500	0.1	\$ 8,150	\$ 10,000
4	\$ 99,650	0.1	\$ 9,965	\$ 10,000
5	\$ 119,615	0.1	\$ 11,962	\$ 10,000
6	\$ 141,577	0.1	\$ 14,158	\$ (37,348)
7	\$ 118,387	0.1	\$ 11,839	\$ (37,348)
8	\$ 92,878	0.1	\$ 9,288	\$ (37,348)
9	\$ 64,818	0.1	\$ 6,482	\$ (37,348)
10	\$ 33,952	0.1	\$ 3,395	\$ (37,348)
	=B15+D15+E15	=B\$1	=[@[Beginning Balance]]*[@Return]	
Ending	\$ -			

Given current account balance C, deposit D for n years and rate of return r, we can withdraw W for k years if account balance at end of year 5 equals PV of k years of withdrawals.

FV at year n of C now + D for n years = PV at year n of W for k years

$$C*(1+r)^n + FV(D \text{ for } n \text{ years}) = PV(W \text{ for } k \text{ years}) = W * PV(1 \text{ for } k \text{ years})$$

$$W = (C*(1+r)^n + FV(D \text{ for } n \text{ years})) / PV(1 \text{ for } k \text{ years})$$

