Problem Set 3

1		**1,029.56 €**
		1,786.52 €
		514.78 €
		2,676.45 €
		1,319.01 €
2	Annual rate	6.168%
		1,030.38 €
		1,795.02 €
		515.19 €
		2,697.70 €
		674.43 €
3	Annual rate	12.00%
		990.60 €
		1,067.67 €
		486.03 €
		1,785.71 €
		918.88 €
4	**SAME as 3**	
5.1	Effective APR	
	10%	**10.471%**
	3%	**12.551%**
	8%	**17.227%**
	5%	**5.127%**
5.2	Effective monthly	
	4%	**0.327%**
	5%	**0.415%**
	1%	**0.949%**
	2%	**0.995%**

6		**simple capn**	
		1 yr disc f	2 yr disc f
2%		**0.9804**	**0.9615**
5%		**0.9524**	**0.9091**
10%		**0.9091**	**0.8333**
20%		**0.8333**	**0.7143**
		compound capn	
		1 yr disc f	2 yr disc f
2%		**0.9804**	**0.9612**
5%		**0.9524**	**0.9070**
10%		**0.9091**	**0.8264**
20%		**0.8333**	**0.6944**
7	PV of options		1.0150
	A		**100,000.00 €**
	B		**155,100.10 €**
	C		**135,014.61 €**
	D		***165,999.32 €***
8	Factor sum 5 yr		5.52563125
	Cash		**7,238.99 €**
9	Factor sum 3 yr		2.723248029
	Cash		**36,720.86 €**
10	first		**2,000.00 €**
	second bank		**4,000.00 €**
11	effv APR bank 1		**3.02%**
	effv APR bank 2		**6.14%**
	half yrly rate		**3.02%**
12			**15,450.00 €**
13			**14,423.08 €**

14	PV debt		34,553.50 €
	PV debt		35,558.63 €
15			**6.051%**
			5.875%
16			**1,636.65 €**
			2,008.55 €
17		**forward rates**	
1		5.50%	**5.500%**
2		5.70%	**5.900%**
3		6.00%	**6.603%**
4		5.90%	**5.601%**
		spot rates	
1		4.50%	**4.500%**
2		4.70%	**4.600%**
3		5.00%	**4.733%**
4		5.20%	**4.850%**
18			**12.000%**
19	final balance		6,952.37 €
	tax		200.00 €
	Withdraw		**6,752.37 €**
20			**0.407%**
21	nominal APR		**18.310%**
	n years		3.785578521
22	**83.33333333**	per month	
	3.6	months	
23	**22.51708531**	semesters	
	11.25854265	years	
33		4.00%	**4.074%**
		7.00%	**6.882%**
		2.00%	**12.000%**
		35.00%	**26.138%**

	don't cancel the debt		
	cancel the debt		
24a			**54,290.25 €**
24b			**54,421.77 €**
24c			**54,301.53 €**
25a			**6.000%**
25b			**5.841%**
25c			**5.870%**
26			**0.247%**
	2.47 €	each month	
	14.80 €	total	
27			**0.041667**
			12.716%
28			**2.74816**
29	1,350.00 €	cash	
	496.32 €		
	497.54 €		
	498.77 €		**1,492.63 €**
30	1.50%		**18.000%**
	2.50%		**10.000%**
	6.00%		**5.855%**
	7.00%		**7.251%**
31	150,000.00 €		30,000.00 €
	2.80%		0.2333%
			26,824.83 €
32	FV		150,000.00 €
32a Yes	70000		181,561.97 €
32b	pay up to		**76,252.39 €**
34	**1.866%**		
	0.9257		