Assume that you purchase a 6-year savings certi cate for 1000 with an 8% interes

0	1	2	3	4	5	6
1000.0	1080.0	1166.4	1259.7	1360.5	1469.3	1586.9
0.08						1586.9

st compounded annually. Calculate the value of the certificate when it matures (future value).

SpreadSheet Approach
Formula Approach

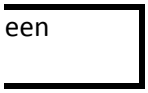
You are asked to lend 500 in return for 600 after two years. What annual interest rate has b offered to you?

Formula approach

	0	1	2
PV	500	547.7226	600
i	9.54%		
FV	600		

Spreadsheet approach

	0	1	2
PV	500	547.7227	600.0004
i	9.54%		
FV	600		


een

You are offered an investment opportunity with the 'guarantee' that your investment will d
years. Assuming annual compounding, what annual rate of return would this investment pr

	0	1	2	3	4	5	
PV	1000	1148.698	1319.508	1515.716	1741.101	1999.999	Spreadsheet approach
interest	14.87%					14.87%	Formula approach
FV	2000						

ɔuble in 5
ɔvide?

You just bought a new Play Station. However, you expect that in five years a new version w market, so you start saving now. If you put 100 at the end of each year for the next 5 years i account that pays 3% annually, how much will you accumulate after 5 years with compound you accumulate if you put 100 at the beginning of each year?

		0	1	2	3	4	5
PMT	100		100.00	103.00	106.09	109.27	112.55
interest	0.03			100.00	103.00	106.09	109.27
years	5				100.00	103.00	106.09
						100.00	103.00
							100.00
				Spreadsheet approach 1			530.91

0	1	2	3	4	5
	112.55	109.27	106.09	103.00	100.00
		Spreadsheet approach 2			

Formula approach 530.9

$$FVA_N = PMT\left[\frac{(1+I)^N}{I} - \frac{1}{I}\right]$$

ill be put on the
nto your saving
ling? How much will

	0	1	2	3	4	5	
	100	115.93	112.55	109.27	106.09	103.00	
		100.00	115.93	112.55	109.27	106.09	
			100.00	115.93	112.55	109.27	
				100.00	115.93	112.55	
					100.00	115.93	
FV			Spreadsheet approach 1			546.84	FV

FV	0	1	2	3	4	5	FV
530.91	115.9274	112.5509	109.2727	106.09	103		546.84
			Spreadsheet approach 2				

Formula approach 546.8

(4-4)

How much would you be willing to pay today for an investment that would return 800 at the
5%.

		0	1	2	3	4	5	6
	6		800	800	800	800	800	800
interest rat	0.05		761.9	725.6	691.1	658.2	626.8	597.0
PV	4060.55	Spreadsheet approach						
PV	4060.55	Formula approach						

e end of each year for the next 6 years? Assume a discount rate of

You are a manager and want to allow your customers to buy on credit with 4 months until t
and you resort to a bank credit given to you at the 18% annually with monthly compoundin
you costs from the short-term bank credit?

Bank		Customer	
Nominal annual	0.18	Nominal annual	18.41%
Compounding	12	Compounding	3
EAR (EFF)	19.56%	EAR (EFF)	19.56%

they pay your accounts payable. Meanwhile you need to finance those accounts payable
g. What interest rate (in annual terms) should you give your costumer so, that you cover

You have applied for a mortgage of 240000 to finance the purchase of a new home. The bank
loan, how much principal will be repaid in the first and the last year?

			Loan balance	Interest	Principal		PMT
0							PV
1	9600	9484.38	240000	2926	6674	Spreadsheet approach	FV
2	9600	9370.15	233326	2844	6756		Interest
3	9600	9257.29	226570	2762	6838		years
4	9600	9145.80	219732	2679	6921		
5	9600	9035.65	212811	2594	7006		
6	9600	8926.82	205805	2509	7091		
7	9600	8819.31	198714	2422	7178		
8	9600	8713.09	191537	2335	7265		
9	9600	8608.15	184272	2246	7354		
10	9600	8504.47	176918	2157	7443		
11	9600	8402.04	169475	2066	7534		
12	9600	8300.85	161941	1974	7626		
13	9600	8200.87	154315	1881	7719		
14	9600	8102.10	146596	1787	7813		
15	9600	8004.52	138784	1692	7908		
16	9600	7908.11	130875	1595	8005		
17	9600	7812.87	122871	1498	8102		
18	9600	7718.77	114769	1399	8201		
19	9600	7625.81	106568	1299	8301		
20	9600	7533.96	98267	1198	8402		
21	9600	7443.22	89865	1096	8504		
22	9600	7353.58	81361	992	8608		
23	9600	7265.01	72752	887	8713		
24	9600	7177.51	64039	781	8819		
25	9600	7091.06	55220	673	8927		
26	9600	7005.66	46293	564	9036		
27	9600	6921.28	37258	454	9146		
28	9600	6837.92	28112	343	9257		
29	9600	6755.57	18855	230	9370		
30	9600	6674.20	9484	116	9484		

will require you to make annual payments of 9600 at the end of each 30 years. Determine the

9600	
240000	
288000	0.6%
1.219%	
30	
0.01	

e interest rate in effect on this mortgage. If this is an amortized