

A	B	C	D	E	F	G	H	I	
2	Finance Guide with Formulated Solutions for Excel						monthly compounding		
3	<b>BUDGETED LOAN PAYMENTS - MONTHLY</b>								
4	at simple annual interest, compounded monthly with equal payments made at the end of each month.								
5									
6	Concept: This method finds the amount borrowed when the periodic payment is budgeted. The								
7	amount borrowed can be increased with more payments or a lower interest rate loan. Some								
8	ideal benchmarks are car loans 30 months (not 60 months), mortgages 15 or 20 years (not 30								
9	years), and home equity loans seven years (not 15 years).								
10									
11	<b>Formula:</b>								
12	This formula solves budgeted monthly loan payments at simple annual interest, compounded monthly.								
13	$=\text{(budgeted monthly payment amount}/\text{(interest rate}/1200/\text{(1-}\text{(1}/\text{(1+interest rate}/1200)\text{^budgeted months } \text{))))}$								
14									
15	You Supply:		*	interest rate of the loan					
16			*	budgeted monthly payment amount					
17			*	budgeted months					
18									
19	<b>Computer worksheet:</b>								
20	Case Study I: An amount of \$200 per month is budgeted to buy a used car. In this example, auto								
21	loans are available at 10.75% interest. Find the amount that can be borrowed for 30 months.								
22									
23	interest rate of the loan			10.750 given					
24	budgeted monthly payment amount			200.00 given					
25	budgeted months			30 given					
26	answer: amount borrowed			<b>\$5,240.94</b> calculated see row 27					
27	formula in cell E26			$=\text{(E24}/\text{(E23}/1200/\text{(1-}\text{(1}/\text{(1+E23}/1200)\text{^E25}\text{))))}$					
28									
29	Case Study II: An amount of \$600 per month is budgeted for a mortgage. In this example, mortgages								
30	are available at 8.75% interest. Find the amount that can be borrowed for 360 months.								
31									
32	interest rate of the loan			8.750 given					
33	budgeted monthly payment amount			600.00 given					
34	budgeted months			360 given					
35	answer: amount borrowed			<b>\$76,267.92</b> calculated see row 36					
36	formula in cell E35			$=\text{(E33}/\text{(E32}/1200/\text{(1-}\text{(1}/\text{(1+E32}/1200)\text{^E34}\text{))))}$					
37									
38	Answers explained: The amount borrowed is calculated from the given interest rate, budgeted monthly								
39	payment, and budgeted time.								
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