Math 132M Business Mathematics Topic: Loans

1. You can afford a $1350 per month mortgage payment. You've found a 30 year loan at 8% interest.

a) How big of a loan can you afford? $

b) How much total money will you pay the loan company? $

c) How much of that money is interest? $

2. You want to buy a $18,000 car. The company is offering a 2% interest rate for 60 months (5 years). What will your monthly payments be?

$

3. You want to buy a $223,000 home. You plan to pay 5% as a down payment, and take out a 30 year loan for the rest.

a) How much is the loan amount going to be? $

b) What will your monthly payments be if the interest rate is 5%? $

c) What will your monthly payments be if the interest rate is 6%? $

4. You have $5,000 on a credit card that charges a 17% interest rate. If you want to pay off the credit card in 4 years, how much will you need to pay each month (assuming you don't charge anything new to the card)?

$ each month

5. You have taken a loan of $51,000.00 for 20 years at 3.3% compounded quarterly. Fill in the table below: (Round all answers to 2 decimal places.)

Payment number	Payment amount	Principal Amount	Interest	Balance
0)				$51,000.00
1)	$	$	$	$
2)		$	$	$
3)		$	$	$

6. You are considering taking out a loan of $6,000.00 that will be paid back monthly over 2 years at 6.8% interest as a Rule of 78 loan. What is the interest on the loan? How much of the interest is paid after 10 payments?

The total interest is $. After 10 payments interest paid is $

7. An executive is going to purchase a vacation property for investment purposes. She needs to borrow $105,000.00 for 29 years at 6.3% compounded monthly, and will make monthly payments of $657.55. (Round all answers to dollars and cents.)

What is the unpaid balance after 13 months? $

During this time period, how much interest did she pay? $

++++++++++++++++

Solutions

1. 183,982.72 ~ 486,000 ~ 302,017.28
2. 315.50
3. 211,850 ~ 1,137.26 ~ 1,270.15
4. 144.28
5. $873.38 ~ $452.63 ~ $420.75 ~ $50,547.37 ~ $456.36 ~ $417.02 ~ $50,091.01 ~ $460.13 ~ $413.25 ~ $49,630.88

Payment number	Payment amount	Principal Amount	Interest	Balance
0)				$51,000.00
1)	$873.38	$452.63	$420.75	$50,547.37
2)		$456.36	$417.02	$50,091.01
3)		$460.13	$413.25	$49,630.88

6. $816.00 ~ $530.00
7. $103,572.97 ~
   Payments = 13*657.55=8548.15
   Principal = 105000-103572.97=1427.03
   8548.15-1427.03=$7,121.12
