

FINANCIAL LITERACY – 2. Mortgages & Leasing/buy

Name: _____

- Answer every question.
- Remember to show or communicate your understanding & process

	loans	mortgages	credit	lease/buy	✓	m	x	s	n
result					correct	mostly correct	incorrect	silly mistake	no attempt
question #	1.	2.	3.	4.					

1. loans & financing:

- a) A kitchen remodeled costs \$6,000. The carpenter suggests paying \$600 down, followed by 18 monthly payments of \$325. What is the finance charge for this payment schedule?

$$\begin{aligned}
 &(18 \times 325 + 600) - 6000 \\
 &= 6450 - 6000 \\
 &= \$450
 \end{aligned}$$

the finance charge for this payment schedule is \$450.

- b) A loan of \$33,000 is needed to buy a used SUV. The bank offers financing at 6.75% compounded monthly, for a term of 6 years, payable monthly. What is the total cost of this loan?

total # of months by payment	N = 18
present value	I% = 10
monthly payment	PV = 5400
Future value	PMT = -324.31
payments	FV = 0
compounded	P/Y = 12
periods per year	C/Y = 12
	PMT: END BEGIN

$$\begin{aligned}
 \text{total cost} &= 600 + (18 \times 324.31) \\
 &= 600 + 5837.55 \\
 &= \$6437.55
 \end{aligned}$$

Finance charge:

$$6437.55 - 6000 = \$437.55$$

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2. mortgages:

- a) The purchase of a new home is \$360,000. With a down payment of \$50,000 and a mortgage for the balance, amortized monthly over 20 years at 5.25%, how much total interest is paid?

$$N = 240$$

$$I\% = 5.25$$

$$PV = 310000 \quad (360000 - 50000) = \$501722.40$$

$$PMT = -2090.51 \quad (\text{negative cash outflow})$$

$$FV = 0$$

$$P/Y = 12$$

$$C/Y = 12$$

$$PMT: \text{END BEGIN}$$

$$\text{total pay: } 240 \times 2090.51$$

$$\text{interest pay:}$$

$$501722.4 - 310000 = \$191722.4$$

- b) A mortgage on a \$295,000 home is amortized monthly over 25 years, at an APR of 4.5%. The monthly payment on the mortgage is \$1,639.71. If a one time \$25,000 extra payment at the end of the 4th year is made, how much interest will they save at the end of the 25-year period?

$$N = 48 \quad (4 \times 12)$$

$$I\% = 4.5$$

$$PV = 295000$$

$$PMT = -1639.71$$

$$FV = -267006.11$$

$$P/Y = 12$$

$$C/Y = 12$$

$$PMT: \text{END BEGIN}$$

$$N = 215.39$$

$$I\% = 4.5$$

$$PV = 242006.11$$

$$PMT = -1639.71$$

$$FV = 0$$

$$P/Y = 12$$

$$C/Y = 12$$

$$PMT: \text{END BEGIN}$$

$$\text{New balance (PV)}$$

$$= 267006.11 - 25000 = \$242006.11$$

$$\text{remaining cost without extra pay:}$$

$$215.39 \times 1639.71 = \$353206.92$$

$$\text{with extra payment:}$$

$$(215.39 \times 1639.71) + 25000 = \$378177.24$$

$$\text{total interest saved:}$$

$$353206.92 - 378177.24 = \$25029.68$$

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3. credit:

- a) A balance of \$1,245.00 is on a credit card with a daily APR of 19%. If a \$50.00 payment is made every month, how long until the card is paid off?

N =

I% =

PV =

PMT =

FV =

P/Y =

C/Y =

PMT: END BEGIN

- b) To pay off a credit card in 2 years what will be your monthly payment if the balance is \$2,456.80 and the daily APR is 24%?

N =

I% =

PV =

PMT =

FV =

P/Y =

C/Y =

PMT: END BEGIN

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4. lease vs buy:

- a) A furniture company allows customers to purchase household furnishings with a Rent-To-Own lease agreement. If a customer chooses furniture worth \$3,225.00 and the Rent-To-Own option, the monthly lease payment is \$157.99 for 2 years.

What is the total cost to own and the finance charge for this option? What is the simple interest percentage rate for the finance charge?

- b) The cost of a motorcycle is \$13,000. Based on the monthly payment, which option is more affordable and by how much?

- i. Financing a loan on a 36-month term with an APR of 5.9%, compounded monthly
- ii. Or a lease for 24 months, with an APR of 4.1%, compounded monthly and a depreciation of 15% per year.

N =
I% =
PV =
PMT =
FV =
P/Y =
C/Y =
PMT: END BEGIN

N =
I% =
PV =
PMT =
FV =
P/Y =
C/Y =
PMT: END BEGIN