

Name: _____ Date: _____

Credit Cards, Car loans, and budgets OH MY!

PART A: LOAN OR LEASE?

- 1) Paul is purchasing a car that has a cost of \$22,800. He must pay a 10% down payment. The interest rate on the loan is 3.5% for 4 years. How much will Paul's monthly payment be given the terms of this loan? $22800(.10) = 2280$

$N=48$
 $I=3.5$
 $PV=20520$

$FV=0$
 $PY=12$
 $CY=12$

$\$458.75$

$22800 - 2280 = 20520$
 ↑ PV

- 2) What is the total cost of the car after four years?

$458.75 \times 48 + 2280 = \$24,300$

- 3) Paul gets a new job in New York City four years after he purchased his car. Since he doesn't need a car in the city he decides to sell it. If he can sell the car for \$13,140 what did he spend overall on the car? (Total cost)

$24,300 - 13,140 = \$11,160$

- 4) When Paul bought the car he had an opportunity to lease it for \$199 monthly over four years with a balloon payment of \$1,100 when he turned the car back in. How much would he have spent on the lease?

$199 \times 48 + 1100 = \$10,652$

- 5) Which plan (the loan or the lease) ended up being a better total value for Paul? By how much? **THE LOAN BECAUSE EVEN THOUGH HE SPENDS MORE OVERALL HE OWNS THE CAR SO AFTER 4 YEARS HE CAN CHOOSE TO KEEP IT OR SELL IT. WITH THE LEASE HE MUST GIVE IT BACK (EVEN THOUGH HE HAS SMALLER MONTHLY PAYMENTS)**

PART B: Getting out of debt

Ashley has racked up a lot of credit card debt over numerous credit cards. Below are her four credit cards with her current balances and rates.

Visa: \$4,750 at 19.8% APR 241.24

MasterCard: \$9,927 at 16.5% APR 488.43

BP Gas Card: \$1,119 at 22.65% APR 58.41

Kohl's Credit Card: \$3,445 at 21.99% APR 178.70

$N=24$
 $I = \text{APR FOR EACH}$
 $PV = \text{PV FOR EACH}$
 $FV=0$ $PY \text{ CY} = 12$

- 6) She wants to pay off all of her debt in 2 years. What would the minimum payment be for each credit card?

see above ↑

- 7) So how much would she be paying total for all 4 credit cards each month?

$\$966.83$

8) She makes \$3,000 gross monthly income as an assistant manager. Monthly taxes are 28.8%. What is her after-tax monthly income?

$3000 \cdot (1 - 0.288) = 864$
 $3000 - 864 = \$2136$

9) Ashley currently has the following expenses per month. Rent: \$525; Utilities (gas/water/electric): \$100; Car insurance: \$100; Medical insurance: \$125; Gas: \$60. Plan out a budget for Ashley that she can afford for the next two years and explain your process. Remember to consider food/entertainment/internet and any other things she might need. You are the financial advisor so you can make adjustments wherever you see fit.

$2136 - 910 \text{ expenses} - 966.83 \text{ Credit Card} = \254.17

Food = \$225
 phone = 34.17
 ↑ cheap plan low data

PART C: Analyze a credit card statement

Citi® Platinum Select® Card



Account Activity
 Feb 02-Mar 01, 2010

Account Member
 MARY A SMITH

1-800-950-5114

CITI

Account Number
 9999 9999 9999 9999

Customer Service
 BOX 6500
 SIOUX FALLS, SD
 57117

Minimum Payment Due: \$71.51	New Balance:	Summary of Account Activity
Payment Due Date: 03/27/2010	Payment must be received by 5:00 PM local time on the payment due date.	Previous Balance \$2,982.60
Late Payment Warning: If we do not receive your minimum payment by the date listed above, you may have to pay up to a \$35 late fee and your APRs may be increased up to the Penalty APR of 29.99%.		Payments -\$200.00
Minimum Payment Warning: If you make only the minimum payment each period, you will pay more in interest and it will take you longer to pay off your balance. For example:		Other Credits \$0.00
If you make no additional charges using this card and each month you pay only the minimum payment.	You will pay off the balance shown in about... 2 years	Purchases +\$304.23
	And you will end up paying an estimated total of... \$4,290.60	Balance Transfers +\$0.00
		Cash Advances +\$0.00
		Fees Charged
		Interest Charged
		New Balance
		Past Due Amount \$0.00
		Amt. Over Cred. Limit \$0.00
		Credit Limit \$4,600
		Available Credit \$1,472
		Cash Advance Limit \$800
		Available Cash Limit \$102
		Statement Closing Date 03/01/2010
		Days in Billing Cycle 28

Extra Cash from Citi		extracash.citi.com	
Extra Cash from Citi Member ID 9999-9999999		30.42	
Full details can be found in the Extra-Cash from Citi Summary section of this statement.			
Payments, Credits and Adjustments			
Sale	Post	Description	Amount
	02/24	CLICK-TO-PAY PAYMENT, THANK YOU!	-200.00
Standard Purchases			
Sale	Post	Description	Amount
02/24	02/24	SUNPASS OPERATIONS 888-865-5352 FL	10.00
Purchases Prior to 02/22/10			
Sale	Post	Description	Amount
02/01	02/02	SUNPASS OPERATIONS 888-865-5352 FL	10.00
02/04	02/24	7-ELEVEN 32251 Q05 PALM CITY FL	32.82
02/04	02/24	7-ELEVEN 32251 Q05 PALM CITY FL	39.02
02/11	02/11	SUNPASS OPERATIONS 888-865-5352 FL	10.00
02/12	02/12	ADT SECURITY SERVICES 800-238-2455 FL	41.65
02/14	02/14	FL DRIVER LICENSES AND 850-617-2000 FL	70.85
02/15	02/15	INTUIT TURBOTAX 800-446-8848 CA	20.95
02/04	02/24	7-ELEVEN 32251 Q05 PALM CITY FL	30.06
02/24	02/24	HESS 09389 Q3B PORT ST. LUCI FL	39.01
Fees			
Sale	Post	Description	Amount
		TOTAL FEES FOR THIS PERIOD	0.00

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Use it to get great rewards online.

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10) Does Mary already owe money on this credit card? If so how much?

Yes \$2982.60

11) Did she make any payments on this credit card? How much?

Yes \$200

12) How much did she spend, or put on her credit card this month?

\$304.23

13) What is her new balance (before any finance charge is added)?

$$\$3086.83$$

14) The APR on this credit card is 15.55%. What would be the monthly periodic rate?

$$\frac{15.55}{12} = 1.3\%$$

15) What interest was Mary charged this month?

$$3086.83(.013) = \$40.13$$

16) What is the new balance at the end of the month on Mary's card with all fees and interest included?

$$3086.83 + 40.13 = \$3126.96$$

17) The 2009 CARD act said that all credit card companies must print two things on each credit card statement. The first is they have to say how long it will take to pay off the credit card if only the minimum payment is made AND how much they will pay total if they only do this.

a) Determine how many years it will take Mary to pay off the credit card if she only makes the minimum payment? 71.51 (FROM STATEMENT)

$$N = ? \\ PV = 3126.96 \\ I = 15.55$$

PMT (-)

$$64.9 \text{ months} = 5.41 \text{ years}$$

b) What will she end up paying total for this plan?

$$71.51 \times 65 = \$4648.15$$

$$(-3126.96) = 1521.19$$

this is how much you will pay in fees over 5 years

18) The second thing that credit card companies must put on the credit card statement is that they must say how much you need to pay each month to have the credit card paid off in 3 years. How much will Mary need to pay each month to be paid off in 3 years?

$$N = 36 \\ I = 15.55 \\ PV = 3126.96$$

$$\$109.24$$

19) How much money will Mary save in interest fees if she pays off the credit card in three years instead of just making the minimum payment from question 17?

$$109.24 \times 36 = 3932.64 \\ \text{3 years}$$

$$4648.15 - 3932.64 = \$715.51$$

minimum payment of 71.51
4648.15

more in interest payments if you only make minimum payments instead of 109.24

PART D: Saving money

20) Darius plans on depositing a lump sum of \$5,000 into a CD account that accumulates 3.4% interest quarterly. How much will he have in 5 years? How much will he have in 10 years?

$$N = 20 \text{ or } 40 \\ I = 3.4 \\ PV = -5000 \\ PMT = 0 \\ FV = ? \\ \text{py } 4 \\ \text{cy } 4$$

$$5 \text{ years} = \$5,922.27$$

$$10 \text{ years} = \$7014.65$$

21) Darius's credit union is offering him the same interest rate on a savings account that has interest compounded weekly. How much would this account have in 5 years? How much will it have in ten years?

$N = 260$ or 520 $PMT = 0$
 $I = 3.4$ PV
 $PV = -5000$ $PY = 52$ $UY = 52$

5 years = 5926.20
 10 years = 7023.96

22) How much more did the savings account make in 5 years. How much more did it make in ten years?

5 years = $5926.20 - 5922.27 = \$3.93$
 10 years = $7023.96 - 7014.65 = \$9.31$

23) Gertrude just became a grandmother and wants to start a college savings fund for her new grandbaby. She has a money market account that has a 6.1% interest rate compounded monthly. If she wants to have \$20,000 saved in 18 years when her grandchild graduates high school, how much does she need to put into the account now?

$N = 216$
 $I = 6.1$
 $PV = ?$ ←
 $PMT = 0$
 $FV = 20,000$

$\$6,689.33$

PART E: College Loans

24) By the time he graduated, Ernie had accumulated \$18,453 in student debt. He took all of this out in subsidized loans. Assume he uses the standard 10 year payback at 4.35% how much will his monthly payments be?

$N = 120$ $PMT ?$
 $I = 4.35$ $FV = 0$
 $PV = 18,453$

$\$189.91$

25) It has been six months since Ernie graduated and he just got his first job and it's a good one! He scored a job as a manager of a new line of boutique shoe stores and will be making \$62,000 per year. If we assume that taxes are 32.65% how much will his after tax monthly salary be?

$62,000 \div 12 = \$5166.67$ (monthly)
 $(.3265) = 1686.92$ (taxes)
 $5166.67 - 1686.92 = \underline{\$3479.75}$ (post tax salary)

26) Ernie realizes that he could afford higher monthly payments because he is making more than he expected. If he can afford monthly payments of \$425, how many months/years would it take him to pay back his loan?

$N = 47.3$ $PMT = 425$ 47.3 months
 $I = 4.35$ $PV = 18,453$ $or 3.9$ years

27) What is the TOTAL cost of the 10 year pay back plan? What is the TOTAL cost of the plan from question 26?

10 years = $189.91 \times 120 = \$22789.2$
 47 months = $425 \times 47 = \$19975$

28) How much money do you save with the \$425 payback plan?

$22789.20 - 19975 = \underline{\$2,814.20}$ AND you are paid off in 3.9 years instead of 10 years!