GRADE 11 ESSENTIAL
UNIT B – INTEREST AND CREDIT
LOAN REPAYMENTS

MrF

Name: _____

Date: _____

1. You have learned about Simple and Compound interest on an investment or a loan in which you invest or borrow a fixed sum of money (present Value, PV) for a certain time and the re-payment (Future Value, FV) occurs all in one shot. For example you borrow $2,000 from your uncle and he gets $3,000 back in one single payment after two years.

In reality though, very few banks are willing to loan you money and say: "come back in a couple years and pay us back". They want monthly installments to make sure you are still in town! Further, paying off the loan (amortizing the loan) in installments makes it cheaper for you too because you start paying it off right away and you don't end up with a big 'surprise' at the end of the loan period for a lot of money to pay back.

There is a huge unwieldy formula you can use to calculate your loan payments and loads of apps and websites that readily do the calculation. But we tend to use a table of values on this course. A loan table is attached.

2. You borrow $6,500 from the bank at 9% interest and want to pay it off (amortize it, 'mort' in French means kill) after 5 years.

a. what will your monthly payments be?

b. how many monthly payments do you make pay off the loan?

c. how much will you have paid at the end of the loan total?

d. what was your cost to borrow that money (ie: the interest you paid)?

3. You borrow $15,000 from the bank at 6% interest and want to pay it off (amortize it, 'mort' in French means kill) after 10 years.

a. what will your monthly payments be?

b. how many monthly payments do you make pay off the loan?

c. how much will you have paid at the end of the loan total?

d. what was your cost to borrow that money (ie: the interest you paid)?

e. how much would the loan have cost you in interest if you had paid it off in 5 years instead?

f. how much would the loan cost you in interest if you had dragged out your payments for 25 years instead of just 10 years?

4. You borrow $250,000 from the bank for a house loan at 8.5% interest and want to pay it off after 10 years.

a. what will your monthly payments be?

b. how many monthly payments do you make pay off the loan?

c. how much will you have paid at the end of the loan total?

d. what was your cost to borrow that money (ie: the interest you paid)?

e. how much would the loan have cost you in interest if you had paid it off in 5 years instead?

f. how much would the loan cost you in interest if you had 'dragged' out your payments for 20 years instead of just 10 years?

g. what will your monthly payments be if the interest rate goes up to 18% (like it did in the mid 80s!)

Annual Rate	1 Year Monthly	2 Years Monthly	3 Years Monthly	4 Years Monthly	5 Years Monthly	10 Years Monthly	15 Years Monthly	20 Years Monthly	25 Years Monthly
2%	$84.24	$42.54	$28.64	$21.70	$17.53	$9.20	$6.44	$5.06	$4.24
3%	$84.69	$42.98	$29.08	$22.13	$17.97	$9.66	$6.91	$5.55	$4.74
4%	$85.15	$43.42	$29.52	$22.58	$18.42	$10.12	$7.40	$6.06	$5.28
5%	$85.61	$43.87	$29.97	$23.03	$18.87	$10.61	$7.91	$6.60	$5.85
6%	$86.07	$44.32	$30.42	$23.49	$19.33	$11.10	$8.44	$7.16	$6.44
7%	$86.53	$44.77	$30.88	$23.95	$19.80	$11.61	$8.99	$7.75	$7.07
8%	$86.99	$45.23	$31.34	$24.41	$20.28	$12.13	$9.56	$8.36	$7.72
9%	$87.45	$45.68	$31.80	$24.89	$20.76	$12.67	$10.14	$9.00	$8.39
10%	$87.92	$46.14	$32.27	$25.36	$21.25	$13.22	$10.75	$9.65	$9.09
12%	$88.85	$47.07	$33.21	$26.33	$22.24	$14.35	$12.00	$11.01	$10.53
14%	$89.79	$48.01	$34.18	$27.33	$23.27	$15.53	$13.32	$12.44	$12.04
16%	$90.73	$48.96	$35.16	$28.34	$24.32	$16.75	$14.69	$13.91	$13.59
18%	$91.68	$49.92	$36.15	$29.37	$25.39	$18.02	$16.10	$15.43	$15.17
20%	$92.63	$50.90	$37.16	$30.43	$26.49	$19.33	$17.56	$16.99	$16.78
25%	$95.04	$53.37	$39.76	$33.16	$29.35	$22.75	$21.36	$20.98	$20.88
30%	$97.49	$55.91	$42.45	$36.01	$32.35	$26.36	$25.30	$25.07	$25.02
35%	$99.96	$58.52	$45.24	$38.97	$35.49	$30.12	$29.33	$29.20	$29.17