

Mr. Kaufman
 Deferred Payments Homework *- New*

Simple Interest:

$$I = Prt \qquad A = P(1 + rt)$$

Compound Interest:

$$A = P(1 + r)^{nt}$$

$$P = \frac{A}{(1 + r)^{nt}}$$

Monthly Payment:

$$PMT = \frac{A(i)}{(1 + i)^n - 1}$$

i = the interest rate per payment period

Annual Percentage Rate (APR):

$$APR = \frac{2Nr}{N + 1}$$

I. You buy something on 01/01/10 for \$12,500 that has a deferred payment for 1 year : payment is due on 01/01/11 and no interest is due if you pay on time. Interest accrues at 16.5% compounded daily.

1) How much do you owe if you make payment on 12/31/10?

12,500

2) How much do you owe if you make the payment on 01/02/11?

14,741.86

3) How much can you reduce the cost of your purchase if you set aside the \$12,500 and invest it in a 1 year CD at 2.5%? Assume interest is compounded daily and a 360 day year.

316.43

4) What are the finance charges if you pay on 01/02/11?

2241.86

5) One of your toughest choices is what financing to choose when offered a selection and how much of a down payment to make:

Gym memberships: \$0 down and \$40 per month OR \$120 down and \$30 per month. After how many months will both deals cost the same amount?

12

6) Best Buy offers monthly payments at 13.99% interest for 4 years if you buy a complete entertainment system for \$4,200.

What is your monthly payment?

114.75

II. You purchase a TV for \$2,150. Sales tax is an additional 6%. Your down payment is 25% and the balance will be financed for 24 months at 9.5% interest.

7) What is the total cost of the TV?

2279

8) What is the amount of the downpayment?

569.75

9) What is the amount financed?

1709.25

10) What is the monthly payment?

78.48

11) What are the total finance charges you pay?

174.27

12) What is the total cost of the TV including the finance charges?

2453.27

III. You take out a loan for \$3,200 at 12% simple interest. You will pay it back in 6 equal payments.

13) What is the APR?

20.6%

14) Assume that the APR is 18%. Explain why there is such a large disparity between the APR of 18% and the stated interest rate of 12%.

IV. You buy 20 dishwashers for your appliance store. The cost is \$250 per dishwasher plus 5% sales tax. The wholesaler offers you 2/10 or n/30 terms.

15) How much was the 2% discount?

105

16) What is your cost if you take advantage of the 2% discount?

5145

17) What is your cost if you use the n/30 terms?

5250

IV.

18) What are 3 **advantages** of a deferred payment?

19) What are 2 **disadvantages** of a deferred payment?

20) A newspaper charges \$18 for the first 3 lines of an ad and \$4 for each additional line. Write the cost of an ad as an algebraic equation.

$F(c) = 18 + 4(x - 3)$ where x is the number of lines in the ad.