Student: _____ **Date:** _____	**Instructor:** CHRISTOPHER FOLEY **Course:** MGF1107 SURVEY OF MATH W 6:30 PM 9:15 PM CHRISTOPHER FOLEY 586325	**Assignment:** Unit 2 - Chapter 7 - Personal Financial Management REVIEW

1.

Ernie Rolph deposits $5,350 at 4% annual simple interest for 1 year. How much interest will he earn?

Ernie will earn $ [_____] in interest.

   ID: 7.1.1

2.

Find the simple interest.

Principal	Rate	Time in Months
$4000	8%	3

The simple interest is $ [_____].
(Round to the nearest cent as needed.)

   ID: 7.1.3

3. Alex was late on his property tax payment to the county. He owed $2,968 and paid the tax 9 months late. The county charges a penalty of 7% simple interest. Find the amount of the penalty.

Alex will have to pay a penalty of $ [_____].
(Round to the nearest cent as needed.)

   ID: 7.1.11

4.

A student borrows $6000 at 10% for 3 months to pay tuition. Find the total amount due.

The total amount due after 3 months is $ [_____].

   ID: 7.1.13

5. Describe the effect of interest being compounded more and more often. In particular, how good is continuous compounding?

Choose the correct answer below.

○ **A.** The more often interest is compounded, the faster the increase in the amount of interest over time. Continuous compounding will yield the fastest possible increase in the amount of interest due to the compounding periods happening constantly.

○ **B.** Interest that is compounded more often yields greater amounts of interest over time, until the compounding period has a length of zero, or continuous compounding. Continuous compounding is the worst type of compound interest, because the compounding period is essentially zero, so there is almost no increase in the amount of interest.

○ **C.** Interest that is compounded less often yields a larger increase in the amount of interest over time, due to larger amounts of interest being accrued at each compounding period. Continuous compounding only yields tiny increases at each compounding period.

○ **D.** Compounding interest more often has no effect on the amount of interest over time. Continuous compounding will yield the same amount of interest as any other type of compound interest.

   ID: 7.1.27

6.   Find the present value of the following future amount.

$1000 at 12% compounded annually for 20 years

The present value is $ [＿＿＿＿＿] .
(Round to the nearest cent as needed.)

   ID: 7.1.31

7.   Find the present value of the following future amount.

$4000 at 12% compounded semiannually for 30 years

The present value is $ [＿＿＿＿＿] .
(Round to the nearest cent as needed.)

   ID: 7.1.33

8.   Suppose a savings and loan pays a nominal rate of 3.9% on savings deposits. Find the effective annual yield if interest is compounded annually.

The effective annual yield is [＿＿＿＿＿＿] %.
(Type an integer or a decimal rounded to the nearest thousandth as needed.)

   ID: 7.1.39

9.   Suppose a savings and loan pays a nominal rate of 1.8% on savings deposits. Find the effective annual yield if interest is compounded 10,000 times per year.

The effective annual yield is [＿＿＿＿＿＿] %.
(Type an integer or a decimal rounded to the nearest thousandth as needed.)

   ID: 7.1.45

10.   The year 2010 price of a fast food meal at a certain restaurant is $6.13. Find the estimated future price for 2015 and 2025 with 4% inflation and with 10% inflation.

The 2015 price with 4% inflation is $ [＿＿＿＿＿] .
(Round to two decimal places as needed.)

The 2025 price with 4% inflation is $ [＿＿＿＿＿] .
(Round to two decimal places as needed.)

The 2015 price with 10% inflation is $ [＿＿＿＿＿] .
(Round to two decimal places as needed.)

The 2025 price with 10% inflation is $ [＿＿＿＿＿] .
(Round to two decimal places as needed.)

   ID: 7.1.63

11. The year 2010 prices of several items are given below. Find the estimated future prices required to fill the blanks in the chart.

Item	2010 Price	2015 Price 2% Inflation	2025 Price 2% Inflation	2015 Price 9% Inflation	2025 Price 9% Inflation
Small car	$17,300	_____	_____	_____	_____

2015 Price 2% Inflation = $ [   ]   (Round to the nearest dollar as needed.)

2025 Price 2% Inflation = $ [   ]   (Round to the nearest dollar as needed.)

2015 Price 9% Inflation = $ [   ]   (Round to the nearest dollar as needed.)

2025 Price 9% Inflation = $ [   ]   (Round to the nearest dollar as needed.)

ID: 7.1.65

12. Suppose you buy an appliance costing $2250 at a store charging 7% add-on interest, you make a down payment of $400, and you agree to monthly payments over 4 years. Find the total cost for the appliance plus interest.

The total cost for the appliance plus interest is $ [   ].
(Type an integer or decimal rounded to the nearest cent as needed.)

ID: 7.2.5

13. Suppose you want to buy a new car that costs $16,600. You have no cash – only your old car, which is worth $3000 as a trade-in. The dealer says the interest rate is 6% add-on for 5 years. Find the total interest.

The total interest is $ [   ]. (Simplify your answer.)

ID: 7.2.7

14. Compute the monthly payments for an add-on interest loan of $1810, with an annual interest rate of 9 percent and a term of 2 years.

The monthly payment is $ [   ].
(Round to the nearest cent.)

ID: 7.2.9

15. Use the add-on method of calculating interest to find the total interest and the monthly payment of a $1250 loan for 16 months at 8.5%.

The total interest is $ [   ].
(Type an integer or decimal rounded to the nearest cent as needed.)

The monthly payment is $ [   ].
(Type an integer or decimal rounded to the nearest cent as needed.)

ID: 7.2.13

16. Find the finance charge for a charge account with an average daily balance of $1089.55 and a monthly interest rate is 1.791%. Assume interest is calculated on the average daily balance of the account.

$ [   ] (Round to the nearest cent as needed.)

ID: 7.2.29

17. For the credit card account, assume one month between billing dates (with the appropriate number of days) and interest of 1.1% per month on the average daily balance. Find **(a)** the average daily balance, **(b)** the monthly finance charge, and **(c)** the account balance for the next billing.

Previous Balance: $752.64
July 8   Billing Date
July 15   Payment $200
July 28   Lunch $33.85
August 5   Concert tickets $67.71

(a) The average daily balance is $ [   ] .
(Round to the nearest cent as needed.)

(b) The finance charge is $ [   ] .
(Round to the nearest cent as needed.)

(c) The account balance for the next billing is $ [   ] .
(Round to the nearest cent as needed.)

ID: 7.2.31

18. Suppose you purchase $1700 worth of flooring. At the end of 3 months, the total interest on the unpaid balance is $131.55. Treating the 3 months as $\frac{1}{4}$ of a year, find the equivalent simple interest rate for this problem (to the nearest tenth of a percent).

The simple interest rate which corresponds to a total interest charge of $131.55 after 3 months is [   ] %.
(Round to one decimal place as needed.)

ID: 7.2.39

19. Find the annual percentage rate using the annual percentage rate table. Here are some conditions of the loan.

Amount Financed	Finance Charge	Number of Monthly Payments
$5200	$151	6

[1] Click the icon to view the annual percentage rate table.

The annual percentage rate is [_____] %.

1: APR Table

Annual Percentage Rate (APR) for Monthly Payment Loans

Number of Monthly Payments (n)	Annual Percentage Rate (APR)												
	8.0%	8.5%	9.0%	9.5%	10.0%	10.5%	11.0%	11.5%	12.0%	12.5%	13.0%	13.5%	14.0%
	(Finance charge per $100 of amount financed) (h)												
6	$2.35	$2.49	$2.64	$2.79	$2.94	$3.08	$3.23	$3.38	$3.53	$3.68	$3.83	$3.97	$4.12
12	4.39	4.66	4.94	5.22	5.50	5.78	6.06	6.34	6.62	6.90	7.18	7.46	7.74
18	6.45	6.86	7.28	7.69	8.10	8.52	8.93	9.35	9.77	10.19	10.61	11.03	11.45
24	8.55	9.09	9.64	10.19	10.75	11.30	11.86	12.42	12.98	13.54	14.10	14.66	15.23
30	10.66	11.35	12.04	12.74	13.43	14.13	14.83	15.54	16.24	16.95	17.66	18.38	19.10
36	12.81	13.64	14.48	15.32	16.16	17.01	17.86	18.71	19.57	20.43	21.30	22.17	23.04
48	17.18	18.31	19.45	20.59	21.74	22.90	24.06	25.23	26.40	27.58	28.77	29.97	31.17
60	21.66	23.10	24.55	26.01	27.48	28.96	30.45	31.96	33.47	34.99	36.52	38.06	39.61

ID: 7.3.1

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20. A fishing boat is purchased for $5,500 and financed for 36 months. If the total finance charge is $1,172, find the annual percentage rate using the table.

[2] Click the icon to view the table of the annual percentage rate.

The annual percentage rate is [_____] %.

2: Data Table

Number of monthly payments	APR (Annual Percentage Rate)													
	10.00%	10.25%	10.50%	10.75%	11.00%	11.25%	11.50%	11.75%	12.00%	12.25%	12.50%	12.75%	13.00%	13
35	15.70	16.11	16.53	16.94	17.35	17.77	18.18	18.60	19.01	19.43	19.85	20.27	20.69	2
36	16.16	16.58	17.01	17.43	17.86	18.29	18.71	19.14	19.57	20.00	20.43	20.87	21.30	2
37	16.62	17.06	17.49	17.93	18.37	18.81	19.25	19.69	20.13	20.58	21.02	21.46	21.91	2

ID: 7.3.3

21. Find the monthly payment.

Purchase Price	Down Payment	Finance Charge	# of Monthly Payments
$2900	$500	$290	36

The monthly payment is about $ [   ] .
(Round to the nearest cent.)

ID: 7.3.5

22. Find the monthly payment.

Purchase Price	Down Payment	Finance Charge	# of Monthly Payments
$3600	$500	$230	24

The monthly payment is about $ [   ] .
(Round to the nearest cent.)

ID: 7.3.7

23. The loan was paid in full before its due date. Obtain the value of h from the given table. Then use the actuarial method to find the amount of unearned interest and the payoff amount.
Regular monthly payment: $481.07
APR: 10.5%
Remaining number of scheduled payments after payoff: 18

Annual Percentage Rate (APR)

Finance charge per $100 of amount financed (h)

Num of monthly payments	9.0%	9.5%	10%	10.5%	11%
6	$2.64	$2.79	$2.94	$3.08	$3.23
12	$4.94	$5.22	$5.50	$5.78	$6.06
18	$7.28	$7.69	$8.10	$8.52	$8.93

The unearned interest is $ [   ] . (Round to the nearest cent as needed.)

The payoff amount is $ [   ] . (Round to the nearest cent as needed.)

ID: 7.3.13

24. The actuarial method of computing unearned interest assumes that, throughout the life of the loan, the borrower is paying interest at the rate given by APR for money actually being used by the borrower. When contemplating complete payoff along with the current payment, think of K future payments as applying to a separate loan with the same APR and h being the finance charge per $100 of that loan. Refer to the following formula.

$$u = kR \left(\frac{h}{\$100 + h} \right)$$

Describe in words the quantity represented by $\frac{h}{\$100 + h}$.

Select the correct answer.

○ **A.**
The quantity $\frac{h}{\$100 + h}$ represents the principal that exists in the separate loan described above.

○ **B.**
The quantity $\frac{h}{\$100 + h}$ represents the total value of the loan.

○ **C.**
The quantity $\frac{h}{\$100 + h}$ represents the payoff amount.

○ **D.**
The quantity $\frac{h}{\$100 + h}$ represents the fraction of the separate loan described above that is not principal.

ID: 7.3.44

25.

Find the monthly payment on a loan of $93,000 at 7% for 30 years. Use either the regular monthly payment formula or the Monthly Payments to Repay Principal and Interest on a $1000 Mortgage table.

[3] Click the icon to view the Real Estate Amortization Table.

The monthly payment is $ [_____].
(Round to the nearest cent as needed.)

3: Real Estate Amortization Table

Monthly Payments to Repay Principal and Interest on a $1000 Mortgage

Annual rate (r)	Term of Mortgage (Years) (t)					
	5	10	15	20	25	30
4.0%	$18.41652	$10.12451	$7.39688	$6.05980	$5.27837	$4.77415
4.5%	18.64302	10.36384	7.64993	6.32649	5.55832	5.06685
5.0%	18.87123	10.60655	7.90794	6.59956	5.84590	5.36822
5.5%	19.10116	10.85263	8.17083	6.87887	6.14087	5.67789
6.0%	19.33280	11.10205	8.43857	7.16431	6.44301	5.99551
6.5%	19.56615	11.35480	8.71107	7.45573	6.75207	6.32068
7.0%	19.80120	11.61085	8.98828	7.75299	7.06779	6.65302
7.5%	20.03795	11.87018	9.27012	8.05593	7.38991	6.99215
8.0%	20.27639	12.13276	9.55652	8.36440	7.71816	7.33765
8.5%	20.51653	12.39857	9.84740	8.67823	8.05227	7.68913
9.0%	20.75836	12.66758	10.14267	8.99726	8.39196	8.04623
9.5%	21.00186	12.93976	10.44225	9.32131	8.73697	8.40854
10.0%	21.24704	13.21507	10.74605	9.65022	9.08701	8.77572
10.5%	21.49390	13.49350	11.05399	9.98380	9.44182	9.14739
11.0%	21.74242	13.77500	11.36597	10.32188	9.80113	9.52323
11.5%	21.99261	14.05954	11.68190	10.66430	10.16469	9.90291
12.0%	22.24445	14.34709	12.00168	11.01086	10.53224	10.28613

ID: 7.4.1

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26. Find the monthly payment needed to amortize principal and interest for the fixed-rate mortgage.

Loan Amount	Interest Rate	Term
$212,750	4.5%	15 years

The monthly payment is $ [_____].
(Round to the nearest cent as needed.)

ID: 7.4.5

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27. Suppose $140,000 is owed on a house. The monthly payment for principal and interest at 8.5% for 30 years is 140 • $7.68913 = $1076.48. How many monthly payments will be made over the 30-year period?

There will be [   ] payments.

ID: 7.4.19

28. Suppose that $250,000 is owed on a house after the down payment is made. The monthly payment for principal and interest at 8.5% for 30 years is 250 • 7.68913 = $1922.28.

What is the total amount that will be paid for principal and interest?

$ [   ]
(Round to the nearest cent.)

If the total interest charged is the total amount paid minus the amount financed, what is the total interest?

$ [   ]
(Round to the nearest cent.)

ID: 7.4.20

29.

The table shows the specifications of an adjustable rate mortgage (ARM). Assume no caps apply. Find a) the initial monthly payment; b) the monthly payment for the second adjustment; and c) the change in monthly payment at the first adjustment.
The principal balance at the time of the first rate adjustment.

Beginning Balance	$80,000
Term	20 years
Initial index rate	5.5%
Margin	2.5%
Adjustment period	1 year
Adjusted index rate	7.0%
*Adjusted balance	$78,309.09

What is the initial monthly payment?

$ [   ]
(Round to the nearest cent.)

What is the monthly payment for the second adjustment period?

$ [   ]
(Round to the nearest cent.)

How much is the increase in monthly payments?

$ [   ]

ID: 7.4.39

30. James Kinchen has a 1-year ARM for $50,029 over a 24-year term. The margin is 2% and the index rate starts out at 5.2% and increases to 10.0% at the first adjustment. The balance of principal at the end of the first year is $49,130.32. The ARM includes a periodic rate cap of 2% per adjustment period. What is the monthly payment adjustment at the end of the first year?

The monthly payment adjustment at the end of the first year is $ _____ .
(Round the final answer to the nearest cent as needed. Round all intermediate values to the nearest cent as needed.)

  ID: 7.4.43

31. Suppose your ARM allows conversion to a fixed-rate loan at each of the first five adjustment dates. Describe circumstances under which you would want to convert.

Select all that apply.

- ☐ **A.** The rate of your ARM will increase significantly such that you can no longer afford the future payments.
- ☐ **B.** You want stability in knowing future payments.
- ☐ **C.** The fixed rate is lower than what the ARM rate will change to.
- ☐ **D.** The rate of your ARM is not going to change significantly and your payments will still be manageable.

  ID: 7.4.57

32. Should a home buyer always pay the smallest down payment that will be accepted? Explain.

Choose the correct answer below.

- ○ **A.** Yes, because paying the smallest down payment for a mortgage will reduce both the buyer's principal amount and the added interest over time.
- ○ **B.** No, because paying a larger down payment for a mortgage will lead to a shorter term of the mortgage.
- ○ **C.** No, because paying a larger down payment for a mortgage will reduce both the buyer's principal amount and the added interest over time.
- ○ **D.** Yes, because paying the smallest down payment for a mortgage will save the buyer money at the moment.

  ID: 7.4.58

33. Use the given stock table to find the closing price for ABC Technologies (ABC).

52-Week				Div	Yld		Vol		Net
High	Low	Stock	SYM	Amt	%	PE	100s	Close	Chg
83.85	48.35	ABCTch	ABC	3.00	5.3	17	5915	56.92	1.68

The closing price was $ _____ .

  ID: 7.5.1

34. Use the given stock table to find sales for the day for ABC Technologies (ABC).

52-Week					Yld		Vol		Net
High	Low	Stock	SYM	Div	%	PE	100s	Close	Chg
82.04	45.45	ABCTch	ABC	2.20	0.9	17	3914	56.54	1.36

The sales for the day were _____ shares.

ID: 7.5.4

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35. Use the stock table below to find the low for the year for Idno Tech (ITX).

YTD	52-WEEK				YLD		VOL		NET
% CHG	HI	LO	STOCK(SYM)	DIV	%	PE	100s	CLOSE	CHG
12.0	42.03	30.39	Idno Tech(**ITX**)	0.68	1.9	28	4847	35.84	−1.72

The low for the year is $_____.

ID: 7.5.5

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36. Find the basic cost (ignoring any broker fees) of buying 300 shares of Idno Tech (ITX) at the day's closing price.

YTD	52-WEEK				YLD		VOL		NET
% CHG	HI	LO	STOCK(SYM)	DIV	%	PE	100s	CLOSE	CHG
14.2	44.83	30.21	Idno Tech(**ITX**)	0.64	1.8	23	4716	36.54	−0.93

The cost of buying 300 shares is $_____.

ID: 7.5.13

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37. Find the amount received by the sellers, when executing an online sale of 1470 shares of the stock symbol CVX at the closing price of $139.77 for the day. Deduct sales expenses. Also, the Securities and Exchange Commission (SEC) fee given is $22.10 per million dollars of principal (rounded up to the next cent). The brokerage commission for an online sale is $7.95.

The amount received by the sellers is $_____.
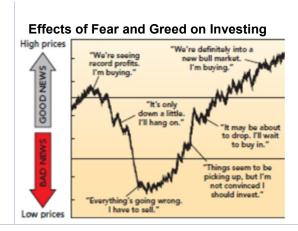(Round to the nearest cent as needed.)

ID: 7.5.29

38.

The information in the table applies to the day of investment in a mutual fund. Find (a) the net asset value and (b) the number of shares purchased.

Amount Invested	$6300
Total Fund Assets	$741 million
Total Fund Liabilities	$32 million
Total Shares Outstanding	40 million

What is the net asset value?

$ [   ]

(Round to the nearest cent.)

How many shares were purchased?

[   ]

(Round to the nearest whole number.)

ID: 7.5.43

39. With respect to investing in the stock market of a country, describe the difference between being an owner and being a lender.

Choose the best answer below.

○ **A.** An owner buys stocks and shares in profits or losses while a lender buys bonds and will earn interest on the use of the money.

○ **B.** An owner buys bonds and receives the money back if the company succeeds while a lender buys bonds and receives the money back regardless of the company's success.

○ **C.** An owner buys stocks and receives a share of the profits while a lender buys stocks but pays out if the company posts a loss.

○ **D.** An owner buys bonds and has a vote in company decisions while a lender buys stocks and shares in company profits.

ID: 7.5.83

40.

Comment on the graph shown on the right.

Effects of Fear and Greed on Investing

Choose the correct answer below.

○ **A.** If the share rate increases and crosses the highest share rate, greed influences their reasoning and they look for buying shares because the share prices will soon drop and they will be able to make money. If the share rate decreases and crosses the lowest share rate, fear influences their reasoning and they look for selling their shares because share prices will soon rise and they will lose money. When share prices are neither very high nor very low, small increases or decreases in share prices do not influence the share holder because the trend does not imply a potential significant loss or gain.

○ **B.** If the price increases and crosses the highest share price, greed influences their reasoning and they look to buy shares because they are under the impression prices will continue rising and they will be able to make money. If the share rate decreases and crosses the lowest share price, fear influences their reasoning and they look to sell their shares because they are afraid prices will continue decreasing and they will lose money. When share prices are neither very high nor very low, small increases or decreases in share prices do not influence the share holder because the trend does not imply a potential significant loss or gain.

ID: 7.5.84

1. 214

2. 80.00

3. 155.82

4. 6150.00

5. A.
   The more often interest is compounded, the faster the increase in the amount of interest over time. Continuous compounding will yield the fastest possible increase in the amount of interest due to the compounding periods happening constantly.

6. 103.67

7. 121.26

8. 3.900

9. 1.816

10. 7.49

    11.17

    10.11

    27.47

11. 19,119

    23,353

    27,132

    66,733

12. 2768.00

13. 4080

14. 88.99

15. 141.67

86.98

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16. 19.51

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17. 616.37

6.78

660.98

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18. 31.0

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19. 10

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20. 13

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21. 74.72

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22. 138.75

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23. 679.85

8460.48

24.

D. The quantity $\dfrac{h}{\$100 + h}$ represents the fraction of the separate loan described above that is not principal.

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25. 618.73

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26. 1627.52

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27. 360

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28. 692020.80

442020.80

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29. 669.15

743.03

73.88

30. 63.33

31. A. The rate of your ARM will increase significantly such that you can no longer afford the future payments., B. You want stability in knowing future payments., C. The fixed rate is lower than what the ARM rate will change to.

32. C.
No, because paying a larger down payment for a mortgage will reduce both the buyer's principal amount and the added interest over time.

33. 56.92

34. 391,400

35. 30.39

36. 10,962

37. 205,449.40

38. 17.73

355

39. A.
An owner buys stocks and shares in profits or losses while a lender buys bonds and will earn interest on the use of the money.

40. B.
If the price increases and crosses the highest share price, greed influences their reasoning and they look to buy shares because they are under the impression prices will continue rising and they will be able to make money. If the share rate decreases and crosses the lowest share price, fear influences their reasoning and they look to sell their shares because they are afraid prices will continue decreasing and they will lose money. When share prices are neither very high nor very low, small increases or decreases in share prices do not influence the share holder because the trend does not imply a potential significant loss or gain.