Practice Set

THE PRESENT AND FUTURE VALUE OF MONEY

PVMA Present Value Multiple Annuity					FVMA Future Value Multiple Annuity				
	Annual Rate					Annual Rate			
	8%	10%	12%	18%		8%	10%	12%	18%
n Periods	Compounded Monthly				n Periods	Compounded Monthly			
	2/3%	5/6%	1%	1.5%		2/3%	5/6%	1%	1.5%
12	11.50	11.37	11.26	10.90	12	12.45	12.57	12.68	13.04
24	22.11	21.67	21.24	20.03	24	25.93	26.45	26.97	28.63
36	31.91	30.99	30.11	27.66	36	40.54	41.78	43.08	47.28
48	40.96	39.43	37.97	34.04	48	56.35	58.72	61.22	69.57
60	49.32	47.97	44.96	39.38	60	73.47	77.44	81.67	96.22
120	82.42	75.67	69.70	55.50	120	182.94	204.85	230.04	331.29
240	119.55	103.63	90.82	64.80	240	589.02	759.37	989.25	2308.85
360	136.28	113.95	97.21	66.35	360	1490.36	2260.49	3494.96	14113.585

Problem: Assume someone won exactly $1,000,000 in their state lottery, 20 payments of $50,000 beginning in one year. Funds invested earned 10% compounded annually. Calculate the following **using tables on page 93**.

1. The value of the annuity today.

2. The value of the annuity if all funds received are invested.

$425,700

$2,863,750

3. What is the value today of your answer to question 2?

4. What is the value in twenty years of your answer to question 3?

$426,698.75

5. In actuality your answers are all _____.

$2,870,402.49

Problem: Solve the following problem **using the monthly compounding tables above**. Linda bought a car valued at $12,000 paying for it over 3 years with interest at 10% compounded monthly. Darin bought the same car paying over 5 years at 12% compounded monthly. Use the tables above, looking up 10%/12 and (3)(12) periods for Linda and 12%/12 and (5)(12) periods for Darin.

1. Calculate the monthly payment each made.

$387.22, $266.90

2. Calculate the total payments each made and the resulting interest.

$13,939.92, $1,939.92
$16,014.00, $4,014.00

3. Once her car was paid for, Linda began saving her monthly payment. How much will she accumulate over the two years it takes Darin to finish paying for his car? Assume interest of 8% compounded monthly.

$10,040.61