

USING THE REALTY BLUE BOOK
Student Problem Work Set

25 possible points - show all work (calculations, pg. numbers, formulas, etc.)

1. What is the monthly payment that is necessary to fully-amortize a \$125,000 loan at 13 1/8% in 17 1/2 years?

<u>Old Page</u>	<u>New Page</u>				
A-8	10	\$125,000	X	.0121776	= \$1,522.20

2. Determine monthly payment to amortize a \$7,000 loan at 12 7/8% interest in 78 months.

<u>Old Page</u>	<u>New Page</u>				
A-7	9	\$7,000	X	.0189896	= \$132.93

3. What is the monthly payment to fully-amortize a \$125,000 loan at 13% interest in 30 years?

<u>Old Page</u>	<u>New Page</u>				
A-8	10	\$125,000	X	.0110620	= \$1,382.75

4. What is the monthly payment necessary to amortize a \$15,000 loan at 12 1/2% interest in 25 years?

<u>Old Page</u>	<u>New Page</u>				
A-84	9	\$15,000	X	.0109035	= \$163.55

5. Your client wants to net \$125,000, excluding expenses, commission rate of 5%. What will be the gross selling price?

<u>Old Page</u>	<u>New Page</u>		
A-145	199	\$131,579	Per Chart

6. Your client has a note with \$7,000 balance with 12 1/2% interest and monthly payments of \$105. Compute the new loan balance after the first payment.

<u>Old Page</u>	<u>New Page</u>				
A-149	203	.010417	X	\$7,000	= \$72.92 Interest payment
		\$105	-	\$72.92	= \$32.08 Principal payment
		\$7,000	-	\$32.08	= \$6,967.92 Prin. Balance

7. What is the *first month* interest charge on a 30-year loan of \$45,000 at 9 ½%? Monthly payment is \$378.39.

Old Page	New Page		
A-149	203	$\$45,000 \times .007917$	$= \$356.27$ Interest payment

8. Loan balance is \$59,283.76. Interest rate is 12 ¾%. What is the monthly interest rate portion of the monthly payment?

Old Page	New Page		
A-149	203	$\$59,283.76 \times .010625$	$= \$629.89$ Interest Payment

9. What will be the balance due in 15 years on a \$30,000 loan, 12%, 30 years amortization?

Old Page	New Page	
A-170	224	$\$30,000 \times 85.7\%$ $= \$25,710$

10. What will be the balance due in 17 years on a \$45,000 loan, 12 ½% interest, 25 years amortization?

Old Page	New Page	
A-172	226	$\$45,000 \times 66\%$ $= \$29,700$

11. Your client decides to take back a purchase money second trust deed in the amount of \$8,000 at 13% interest, with monthly payments of \$120, all due in 5 years. How much will he will receive when the note comes due?

Old Page	New Page		
A-244	259	$\$120 \div \$8,000 = 1.5\%$	Payback Rate
		Per chart, after 5 yrs, at 1.5%, payback rate = 65.04%	of loan is remaining
		$\$8,000 \times .6504 = \$5,203.20$	

12. What is the balloon payment in 5 years on a \$5,000 note at 13 ¼% interest with payments of \$55 per month?

Old Page	New Page		
A-244	259	$\$55 \div \$5,000 = 1.1\%$	Payback Rate
		Per chart, after 5 yrs, at 1.1%, payback rate = 100.34%	of loan is remaining
		$\$5,000 \times 1.0034 = \$5,017$	

13. In question #12, what would the payments be in order to pay the note off in 5 years?

Old Page	New Page	
A-90	10	$\$5,000 \times .0228813 = \114.40

14. One of your clients who carried a purchase money second trust deed for \$9,000 at 13½% interest, payments of \$135 per month, all due in 5 years, asks you how much he would receive if he sold it. You have an investor who purchases trust deeds at 18% yield. You tell your client that he would expect to receive \$ _____.

<u>Old Page</u>	<u>New Page</u>			
A-248	302			
		$\$135 \div \$9,000 = 1.5\%$		Payback rate
		In 5 yr. section, read across 1.5% rate	to 18% yield	= 13.05% discount
		$\$9,000 \times .1305 = \$1,174.50$		= Discount
		$\$9,000 - \$1,174.50 = \$7,825.50$		Discounted price

15. On a \$6,000 note at 13 ¼% interest, payment of \$75 per month, due in 4 years, how much would an investor discount the note in order to receive a yield of 20%?

<u>Old Page</u>	<u>New Page</u>			
A-246	300			
		$\$75 \div \$6,000 = 1.25\%$		Payback rate
		In 4 yr. section, read across 1.25% rate	to 20% yield	= 17.84% discount
		$\$6,000 \times .1784 = \$1,070.40$		= Discount

16. Your client has just purchased a home from you with a loan of \$96,000, 30-year amortization, 13% interest, payments of \$1,061.96 per month. How much equity will he have in his home at the end of the seventh year, when he plans to sell?

<u>Old Page</u>	<u>New Page</u>			
A-174	421			
		At 13% interest, after 7 yrs, there	will be 3.107% of orig.	In.. amt. in equity.
		$\$96,000 \times .03107 =$	$\$2,982.72$	in equity

17. Same loan as question #16 above, with 20-year amortization instead of 30 years. How much equity at the end of the seventh year? (Payments would be \$1,124.73 per month).

<u>Old Page</u>	<u>New Page</u>			
A-174	417			
		$\$96,000 \times .11992 =$	$\$11,512.32$	NOTE: For \$62.77 per month more, the client can retire the note in 20 yrs. & can save a considerable amt. in interest!

18. What is the Annual Constant on a \$100,000 loan at 15%, 10 years, 6 months?

<u>Old Page</u>	<u>New Page</u>		
A-130	185	Per chart, 18.96%	Constant Annual %

19. You know the loan amount is \$92,000, monthly payment of \$1,128.27, term of 17 ½ years. find the interest rate.

Old Page	New Page			
A-130	184	$\frac{1200 \times \$1,128.27}{\$92,000} = 14.72$	=	Annual Constant

Read across 17.5 line until you find Annual Constant of 14.72. Intersection is at 13 ¼ %

20. Your client can buy a note with a \$6,000 face value at 13 ¼%, due in 6 years. Monthly payments are \$60. What is the balloon payment at 20% yield?

Old Page	New Page			
A-205	441	$\frac{1200 \times \$60}{\$6,000} = 12$	=	Annual Constant
		A.C. for 20% = 28.74		
		28.74 - 12 (A.C.) = 16.74		
		28.74 - 20 (%) = 8.74		
		16.74 ÷ 8.74 = 1.92		
		\$6,000 X 1.92 = \$11,491.99		

21. If you invested \$1,200 at 11 ½%, *compounded monthly*, what amount would you expect to receive at the end of the **sixth** year?

Old Page	New Page			
A-329	387	11½% intersection of 6 yr. line = 1.9872 per \$1.00 (single sum)		
		1.9872 X \$1,200 = \$2,384.64		(you're paying <i>one time</i>)

22. If you invested \$100 at the beginning of each month in a savings account at 11% interest *compounded monthly*, how much would you expect to receive at the end of the **fifth** year?

Old Page	New Page			
A-329	387	11% intersection of 5 yr. line = 80.247 per \$1.00 (annuity)		
		80.247 X \$100 = \$8,024.70		(you're paying in <i>monthly</i>)

23. A party offers to sell you the income from his second trust deed which pays \$60 per month. Since you expect a yield of 14% on any investment, what would you offer for 5 years? (Be sure to convert monthly payments to annual payment.)

Old Page	New Page			
A-334	392	\$60 X 12 mos. = \$720 annually		
		\$720 X 3.4331 = \$2,471.83		(Annuity)
				(you're receiving <i>monthly</i>)

24. You have an opportunity to purchase an option on a parcel of land valued at \$15,000 in 2 years. Since you estimate that the inflation rate will be 8%, you offer \$ _____?

Old Page	New Page	
A-333	391	Follow 8% column down to 2 years. Because nothing occurs monthly, only one-time at the end of two years, use the "Single Sum" figure .857339 X \$15,000 = \$12,860.09

25. An office building has a sale price of \$250,000 and requires a 20% down payment. The owner will carry back \$200,000 at 10% for 25 years. The equity cash flow is \$4,500. The buyer plans an 8-year hold. Use 14% discount and 7% growth. Compute the following problem:

1. Equity cash flow	=	<u>\$4,500.00</u>	Given
2. <i>Present worth of \$1</i> @ <u>14</u> % for <u>8</u> years	X	<u>.46389</u>	p. 392 (Annuity, no mo. activity)
3. Present worth of equity stream	=	<u>\$20,875.00</u>	(rounded)
4. Sales Price @ <u>7</u> % growth, for <u>8</u> years <u>1.7182</u> X Price \$ <u>250,000</u>	=	<u>\$429,550.00</u>	p. 381 (Single sum, Continuous, annual change)
5. Less cost of sale (use 7.3%)	-	<u>\$31,357.00</u>	.0073 X \$429,550 (Rounded)
6. Equals Net Sales Price (in 8 years)	=	<u>\$398,193.00</u>	
7. Less <i>remaining balance</i> at end of <u>8</u> years @ <u>10</u> % = <u>89.0%</u> X \$200,000	-	<u>\$178,000.00</u>	p. 216
8. Equals net equity reversion	=	<u>\$220,193.00</u>	
9. Times <i>present value</i> (single sum) (14% x 8 yrs.)	X	<u>.350559</u>	p. 392 (single sum)
10. Present value equity reversion	=	<u>\$77,191.00</u>	(rounded)
11. Plus present value of the equity stream (#3 above)	+	<u>\$20,875.00</u>	Given in #3 above
12. Equals present value of the equity	=	<u>\$98,066.00</u>	
13. Plus proposed loan	+	<u>\$200,000.00</u>	Given
14. Equals the indicated value of the property now	=	<u>\$298,066.00</u>	

The analysis indicates that the property is worth \$298,066 now, based on the potential appreciation and income it produces. If you paid \$250,000 now for the property, then you are getting a great deal!