BUSI 331

Answer Guide 1

LESSON 1: Overview of Real Estate Assets/Markets and Math Review

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1. Answer: 1
This statement is true because acquisition prices would rise by an amount equal to the present value of the tax shelter. In competitive markets, one would expect the price of properties to be affected by any tax shelter benefits available in real estate markets. Investors will respond to the tax shelter benefits and bid up prices for these investments. Option (1) is correct; prices would rise to equal the benefit of the tax shelter.

2. Answer: 1

Press	Display
2.5 ■ NOM%	2.5
2 ■ P/YR	2
■ EFF%	2.515625

3. Answer: 3
20% down payment of $350,000 = $70,000
Loan amount = $280,000 ($350,000 – $70,000)

Press	Display	Comments
6.5 ■ NOM%	6.5	
2 ■ P/YR	2	
■ EFF%	6.605625	
12 ■ P/YR	12	
■ NOM%	6.413688	
280000 PV	280000	
0 FV	0	
180 N	180	
PMT	–2,425.834568	
2426 +/– PMT	–2,426	
6 INPUT ■ AMORT		
=	–954.578669	Principal portion of 6^{th} payment
=	–1,471.421331	Interest portion of 6^{th} payment
=	274,348.113307	OSB_6

4. Answer: 2
Option (2) is correct as indivisibility refers to the difficulty with which ownership rights are divided. Option (1) is incorrect as illiquidity refers to the difficulty with which assets are converted into cash. Option (3) is incorrect as longevity refers to the long economic and physical life of real estate assets. Option (4) is incorrect as immobility refers to fixed geographical location of real estate assets.

5. Answer: 4
Options (2) and (3) are true statements. Two factors that can affect the efficiency of the real estate market are entry barriers and information inefficiencies. For a market to be efficient, all information affecting market prices should be available to all investors at the same cost. This is not true in the market because larger investment firms are better equipped to acquire and utilize market information than smaller firms and individuals. Entry into a particular local market requires substantial information with high costs.

6. Answer: 3
This statement is false because, apart from individual ownership form, liquidity may depend on the existence of a secondary market and transferability of investment shares.

Under an individual ownership form, the liquidity of the investment share is identical to the property's liquidity. With other ownership forms, the liquidity of the investment may additionally depend upon: (1) whether there exists a secondary market for these investments shares; and, (2) a variety of legal and tax considerations affecting the transferability of these ownership forms. Option (1) is false because the liquidity of property markets is dependent upon the number of participants in the markets and whether barriers to entry exist. Option (2) is also false because the statement refers to investment shares; in an individual ownership form, owners do not own shares but rather the whole property.

7. Answer: 4
Financial leverage is the use of fixed-cost debt in an investment to increase the return to the equity investor. If revenue is sufficient to cover operating expenses and debt payments, the remaining income will be allocated to the equity investors, thus the benefit of financial leverage. The benefits will be lost if net operating income is insufficient to cover debt and operating expenses as a result of higher interest rates, higher vacancy rate, or higher operating costs. Options (2) and (3) are correct.

8. Answer: 4
First find the mortgage payments

Press	Display
5 ■ NOM%	5
2 ■ P/YR	2
■ EFF%	5.0625
12 ■ P/YR	12
■ NOM%	4.948699
800000 PV	800000
0 FV	0
180 N	180
PMT	-6,304.990449

Calculate annual payments:

$6,304.99 × 12 = $75,659.88

Find net operating income (NOI):

NOI/DCR = Annual mortgage payments
NOI = 1.5 × $75,659.88
NOI = $113,489.82

Now calculate equity value:

Before-Tax Cash Flow = NOI – Annual Mortgage Payments
Before-Tax Cash Flow = $113,489.82 – $75,659.88 = $37,829.94

Equity Value = Before-Tax Cash Flow/Required Cash Return
Equity Value = $37,829.94/10% = $378,299.40

Investment Value = Equity Value + Mortgage Value
Investment Value = $378,299.40 + $800,000 = $1,178,299.40, rounded to $1,178,299

9. Answer: 4
Although the internet has a vast amount of information, much of it is inaccurate. To invest in real estate in an unfamiliar market, it is best to verify all information gathered on the web by other means. Investors should also be familiar with the local market of the property to understand the supply and demand factors influencing that particular market. Options (2) and (3) are correct.

10. Answer: 3
The statement is false because mortgage lenders may also take an equity position in the property, thereby increasing risk associated with a stated level of return. Option (3) is correct.

11. Answer: 4
Step 1: Calculate the loan amount using the contract information.

Press	Display
4.75 ■ NOM%	4.75
2 ■ P/YR	2
■ EFF%	4.806406
12 ■ P/YR	12
■ NOM%	4.703666
3550 +/- PMT	3,550
0 FV	0
20 × 12 = N	240
PV	551,502.697653

The loan amount is $551,503.

Step 2: Calculate the cash down payment by subtracting the loan amount from the apartment sale price.

$$\$620{,}000 - \$551{,}503 = \$68{,}497$$

Leslie will have to make a down payment of $68,497, rounded to the nearest dollar.

12. Answer: 2

$$\text{Annual Mortgage Constant} = \frac{\text{Annual Mortgage Payments}}{\text{Loan Amount}}$$

Step 1: Determine the annual mortgage payment amount.

$$\$3{,}550 \times 12 = \$42{,}600$$

Step 2: Determine the annual mortgage constant by using the formula above.

$$\text{Annual Mortgage Constant} = \frac{\$42{,}600}{\$551{,}503}$$

$$\text{Annual Mortgage Constant} = 0.0772435$$

13. Answer: 2

This question requires the nominal or periodic rate given to be converted to the equivalent effective annual rate.

(1)

Press	Display
3.07 ■ NOM%	3.07
2 ■ P/YR	2
■ EFF%	3.093562

(2)

Press	Display
6.003486 ■ NOM%	6.003486
4 ■ P/YR	4
■ EFF%	6.14

(3)

Press	Display
.051167 × 365 =	18.675955
■ NOM%	18.675955
365 ■ P/YR	365
■ EFF%	20.527986

(4)

Press	Display
5.5 × 2 =	11
■ NOM%	11
2 ■ P/YR	2
■ EFF%	11.3025

Therefore, Option (2) is true.

14. Answer: 2

Press	Display
8 I/YR	8
1 ■ P/YR	1
1000 PV	1,000
5 N	5
0 PMT	0
FV	–1,469.328077

At the end of the loan's 5-year term, Mora must pay back $1,469.33.

15. Answer: 1
Payments are made monthly; therefore, the given nominal rate with semi-annual compounding (j_2 = 5.5%) must be converted into an equivalent j_{12} rate. Then, the monthly payment can be calculated as follows:

Press	Display
5.5 ■ NOM%	5.5
2 ■ P/YR	2
■ EFF%	5.575625
12 ■ P/YR	12
■ NOM%	5.438018
525000 PV	525,000
25 × 12 = N	300
0 FV	0
PMT	–3,204.555284

The monthly payment is $3,205, rounded up to the next higher dollar.

16. Answer: 3
Round the payment found in the previous question up to the next higher $100. Re-enter this new payment and then calculate the outstanding balance.

Continuing from the previous question, the calculator steps are as follows:

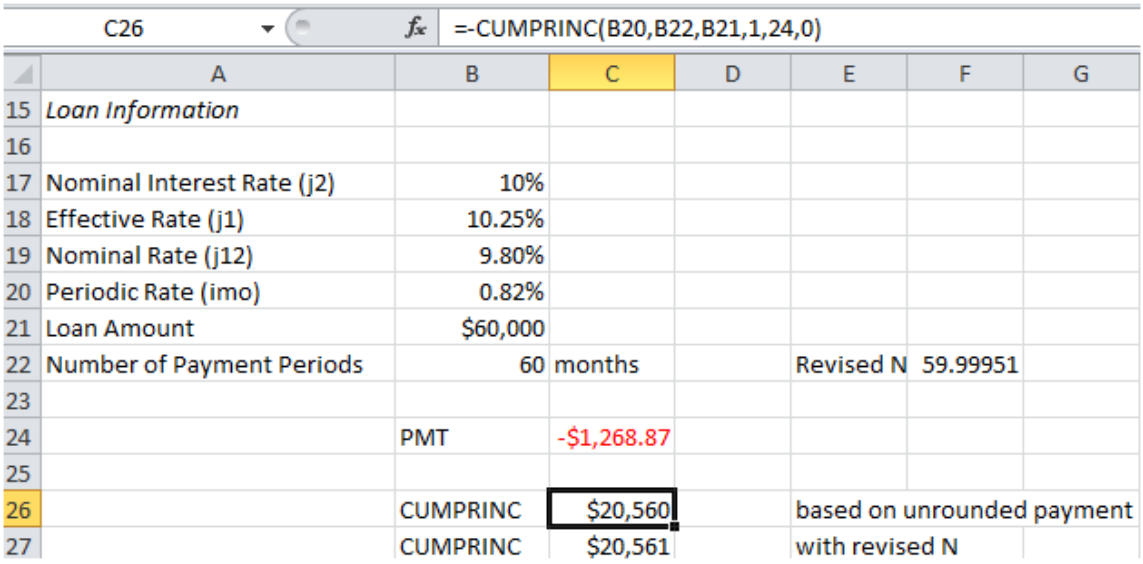
(continued)	
Press	**Display**
3300 +/– PMT	–3,300
36 INPUT ■ AMORT	PER 36–36
= = =	489,079.523292

The outstanding balance owing at the end of 3 years is $489,079.52.

17. Answer: 3
Option (3) is correct as Step 3 of the investment analysis process is to perform financial analysis. Financial analysis involves combining market information with property information to forecast property-generated cash flows. Options (1) and (4) are incorrect as they fall under Step 4 of the investment analysis process, "Apply Selection Criteria". Option (2) is incorrect as it is the last step of the investment analysis process.

18. Answer: 1
The correct formula is =PMT(D6,D8,D7) or =PMT(periodic interest rate, number of payment periods, PV).

19. Answer: 1
See formula below.



C26 =-CUMPRINC(B20,B22,B21,1,24,0)

	A	B	C	D	E	F	G
15	*Loan Information*						
16							
17	Nominal Interest Rate (j2)	10%					
18	Effective Rate (j1)	10.25%					
19	Nominal Rate (j12)	9.80%					
20	Periodic Rate (imo)	0.82%					
21	Loan Amount	$60,000					
22	Number of Payment Periods	60	months		Revised N	59.99951	
23							
24		PMT	-$1,268.87				
25							
26		CUMPRINC	$20,560		based on unrounded payment		
27		CUMPRINC	$20,561		with revised N		

20. Answer: 3
The time value of money best describes the process of accounting for the present value of benefits received in future for an investment.