Real Estate & REIT Financial Modeling – Certification Quiz Questions

Module 5 – 4-Hour Office/Retail Acquisition & Renovation Modeling Test (45 Milk Street)

1. **You are working on a model for the acquisition of a 61,000-square-foot mixed-use office/retail property in Boston. This Class-B property currently has 5 tenants, all paying below-market rent, and your firm plans to spend $20.5 million (7.5% Going-In Cap Rate) to acquire the property, renovate it, boost rents to market rates, and attract 2 new tenants to boost the Occupancy Rate from 83% to 100%.**

   You have created a tenant-by-tenant schedule for the key line items on the Pro-Forma. The Leasing Commissions are based on each tenant's total lease value over the lease term multiplied by a percentage between 2% and 7% depending on the scenario.

   The formula for the Leasing Commissions (LCs) for the anchor tenant, WeWork, is shown below for the first month after initial lease expiration. Is this formula correct?

	C	D	E	AN	AO	AP	AQ
2	**Monthly Cash Flow Projections**						
3	($ in USD as Stated)						
5	**Rent Roll:**	***Units:***		**Nov-20**	**Dec-20**	**Jan-21**	**Feb-21**
21	Tenant Name:	*Name*	WeWork				
22	% Rentable Square Feet Occupied:	*%*	25.0%				
23	Rentable Square Feet Occupied:	*sq. ft.*	13,725 sq. ft.				
24	Lease Start Date:	*Date*	2015-10-31				
25	Initial Lease Term (Years):	*# Years*	5				
26	Lease Expiration Date:	*Date*	2020-10-31				
27	Initial Lease - Annual Rental Escalation:	*%*	2.50%	-	-	-	-
28	Initial Lease - Rent-Free Months:	*#*	6				
30	Renewal Lease Start Date:	*Date*	2020-10-31				
31	Renewal Lease Term (Years):	*# Years*	5				
32	Renewal Lease Expiration Date:	*Date*	2025-10-31				
33	Renewal Lease - Annual Rental Escalation:	*%*	2.50%	-	-	-	-
35	New Lease Start Date:	*Date*	2021-04-30				
36	New Lease Term (Years):	*# Years*	5				
37	New Lease Expiration Date:	*Date*	2026-04-30				
38	New Lease - Annual Rental Escalation:	*%*	2.50%	-	-	-	-
40	Market Rent per Square Foot per Year:	*$ / sq. ft. / Yr.*	$ 47.00	$ 53.24	$ 53.37	$ 53.50	$ 53.63
41	Escalated Rent Paid by Initial Tenant:	*$ / sq. ft. / Yr.*	43.00	-	-	-	-
42	Escalated Rent Paid by Initial Tenant - Renewal:	*$ / sq. ft. / Yr.*		53.24	53.24	53.24	53.24
43	Escalated Rent Paid by New Tenant:	*$ / sq. ft. / Yr.*		53.24	53.37	53.50	53.63
54	(-) Leasing Commissions (LCs):	*$*		=IF(AN$5=EOMONTH($E24,1),-New_LC_Pct*FV($E27,$E25,-AN41*$E23),0)+IF(AN$5=EOMONTH($E30,1),-Renewal_LC_Pct*FV($E33,$E31,-AN42*$E23)*Renewal_Probability,0)+IF(AN$5=EOMONTH($E35,1),-New_LC_Pct*FV($E38,$E36,-AN43*$E23)*(1-Renewal_Probability),0)			
56	(+) Expense Reimbursements:	*$*					
57	(-) General Vacancy:	*$*					

a. No – the LCs should be incurred in the month of the lease start date in each case (initial, renewal, and non-renewal), not 1 month after that.

b. No – the LCs do not need to be probability-weighted because the Escalated Rent figures have already been weighted.

c. No – the FV function won't work as intended here because it does not handle the case where the rental escalation occurs midway through the year.

d. No – this formula does not handle the case where the property's NOI is insufficient to pay for the LCs in a given month.

e. Yes, this formula is correct as is.

2. **Tenant #5 (Trader Joe's) in this same property has a NNN lease with Percentage Rent. The Percentage Rent has an Artificial Breakpoint at $500,000 in monthly sales; the tenant will owe 4% of any amount over that $500,000. This Breakpoint is adjusted up by a small percentage each year based on overall retail sales growth.**

   The Percentage Rent formula is shown below (AU18 is the Retail Sales Growth Multiplier):

	C	D	E	AT	AU	AV	AW
2	**Monthly Cash Flow Projections**						
3	($ in USD as Stated)						
5	**Rent Roll:**	***Units:***		**May-21**	**Jun-21**	**Jul-21**	**Aug-21**
176	**Tenant #5 - Triple Net (NNN) Lease with Percentage Rent:**						
177	Tenant Name:	*Name*	Trader Joe's				
178	% Rentable Square Feet Occupied:	*%*	20.0%				
179	Rentable Square Feet Occupied:	*sq. ft.*	10,980 sq. ft.				
180	Lease Start Date:	*Date*	2016-06-30				
181	Initial Lease Term (Years):	*# Years*	5				
182	Lease Expiration Date:	*Date*	2021-06-30				
183	Initial Lease - Annual Rental Escalation:	*%*	3.00%	-	-	-	-
184	Initial Lease - Rent-Free Months:	*#*	6				
215	Initial Retail Sales per Square Foot per Year:	*$ / sq. ft. / Yr.*	$ 800.00				
216	Initial Average Monthly Sales:	$	$ 732,000				
217	Initial Artificial Breakpoint:	$	$ 500,000				
218	Percentage Rent Beyond Breakpoint:	*%*	4.0%				
219	Monthly Distribution of Retail Sales:	*%*		8.6%	7.8%	7.9%	8.9%
220	Monthly Retail Sales:	$		$ 819,305	$ 740,403	$ 749,967	$ 850,388
222	(+) Percentage Rent:	$		11,024	=IF(AU$5>$E180,MAX(0,AU220-$E217*AU$18)*$E218,0)		

Your co-worker argues that this formula is correct because there could potentially be Percentage Rent as long as the initial lease has begun. Is he/she correct?

a. No – the MAX part should be a MIN instead.

b. No – it's only checking the initial lease start date, but not the lease expiration date.

c. No – it's not multiplying by the Renewal Probability in the case where the lease expires, and there's a period of downtime without a tenant.

d. Yes, your co-worker is correct about this formula.

3. This property's Pro-Forma, down to Adjusted NOI in the Base Case, is shown below:

		Historical:	Projected:				Stabilized:
Property Pro-Forma:	***Units:***	**FY18**	**FY19**	**FY20**	**FY21**	**FY22**	**FY23**
Revenue:							
(+) Base Rental Income:	$	$ 2,805,084	$ 2,942,642	$ 3,044,289	$ 3,135,618	$ 3,221,150	$ 3,301,678
(-) Loss to Lease:	$	(252,957)	(296,740)	(295,303)	(178,965)	(98,434)	(39,238)
(-) Absorption & Turnover Vacancy:	$	-	(55,228)	(48,771)	(252,211)	(63,248)	(79,547)
(-) Concessions & Free Rent:	$	(61,763)	(27,389)	(193,336)	(182,115)	(109,447)	(79,630)
(+) Expense Reimbursements:	$	695,031	701,479	721,686	675,469	745,972	752,454
Potential Gross Revenue:	$	**3,185,396**	**3,264,764**	**3,228,565**	**3,197,795**	**3,695,993**	**3,855,718**
(-) General Vacancy:	$	(578,017)	(606,363)	(441,442)	(266,052)	(273,310)	(280,142)
(+) Percentage Rent:	$	111,360	114,701	118,142	90,175	124,123	126,605
Effective Gross Income (EGI):	$	**2,718,738**	**2,773,103**	**2,905,264**	**3,021,918**	**3,546,807**	**3,702,181**
EGI Growth Rate:	*%*	*N/A*	*2.0%*	*4.8%*	*4.0%*	*17.4%*	*4.4%*
Operating Expenses:							
(-) Property Management Fees:	$	(81,562)	(83,193)	(87,158)	(90,658)	(106,404)	(111,065)
(-) Common Area Maintenance (CAM):	$	(140,206)	(145,049)	(148,610)	(151,582)	(154,202)	(156,515)
(-) Common Area Utilities:	$	(112,165)	(116,039)	(118,888)	(121,266)	(123,362)	(125,212)
(-) Insurance:	$	(56,082)	(58,020)	(59,444)	(60,633)	(61,681)	(62,606)
(-) Real Estate & Property Taxes:	$	(534,008)	(552,455)	(566,018)	(577,338)	(587,315)	(596,125)
(-) CapEx, TI, and LC Reserves:	$	(168,247)	(174,059)	(178,332)	(181,899)	(185,042)	(187,818)
Total Operating Expenses:	$	**(1,092,271)**	**(1,128,814)**	**(1,158,450)**	**(1,183,376)**	**(1,218,006)**	**(1,239,341)**
Net Operating Income (NOI):	$	**1,626,468**	**1,644,288**	**1,746,814**	**1,838,542**	**2,328,801**	**2,462,839**
NOI Margin:	*%*	*59.8%*	*59.3%*	*60.1%*	*60.8%*	*65.7%*	*66.5%*
(-) Capital Expenditures (CapEx):	$	-	(1,260,750)	(1,014,750)	(799,500)	-	-
(-) Tenant Improvements (TIs):	$	-	(69,707)	(553,404)	(527,757)	(386,765)	(234,219)
(-) Leasing Commissions (LCs):	$	-	(26,174)	(221,208)	(195,693)	(137,471)	(87,100)
(+) Capital Costs Paid from Reserves:	$	-	1,303,056	1,730,371	949,110	76,766	217,496
Adjusted Net Operating Income:	$	**1,626,468**	**1,590,713**	**1,687,824**	**1,264,702**	**1,881,331**	**2,359,017**
Adjusted NOI Margin:	*%*	*59.8%*	*57.4%*	*58.1%*	*41.9%*	*53.0%*	*63.7%*

In this Base Case, 1 new tenant moves in, so the final Occupancy Rate is 93%, and all 5 existing tenants begin paying Market Rental Rates upon lease expiration. The new tenant pays a Market Rate upon move-in as well.

Based on the description here and the screenshot above, what is the GREATEST WEAKNESS of this property and deal?

a. It appears that there's a high concentration of lease expirations in Year 3 (FY 21), indicating a poorly staggered rent roll or too few tenants.

b. The Replacement Reserves are insufficient to meet the property's capital costs throughout the holding period.

c. Too much of the Renovation CapEx is spent in the first 2 years (FY 19 and FY 20), which is problematic since the TIs and LCs also increase significantly in FY 20.

d. It is unrealistic for both the Loss to Lease and the General Vacancy to become less negative at the same time since the Base Rental Income keeps increasing.

e. Even though the property's value dips and rises over this holding period, it appears that the Property Taxes keep increasing at a low rate each year.

4. **Referring to the same screenshot above, what is the MOST LIKELY reason why the "Loss to Lease" line item does not reach $0 by the Stabilized Year if all the tenants begin paying Market Rental Rates?**

a. Some of the tenants have concessions or other terms that temporarily grant them lower in-place rent when they first move in.

b. The Base Rental Income is based on a Market Rate that changes each month, but the tenants' rent only changes on an annual basis.

c. The "Market Rental Rate" may be different for different tenants, depending on the space occupied or the lease term.

d. The Base Rental Income has been probability-weighted, but the Loss to Lease has not.

5. **This deal is funded by a Senior Loan at a 65% LTV and Mezzanine at a 10% LTV. The initial Senior Loan Interest Rate is 5.90%, and it increases to 6.80% over the holding period. It has a 2-year Interest-Only Period, 30-year Amortization after that, and a 5-year Maturity.**

   Additionally, ~21% of the initial Senior Loan amount is held back and released over time as the property renovation is completed.

   The Returns to Senior Lenders in the Base Case are shown below:

		Historical:	Projected:			
Returns to Senior Lenders:	***Units:***	**FY18**	**FY19**	**FY20**	**FY21**	**FY22**
(-) Senior Loan Issued:	$	$ (12,177,000)	(960,750)	(1,921,500)	(397,750)	-
(+) Cash Interest Received:	$		911,963	958,334	1,004,705	1,016,040
(+) Senior Loan Principal Repayment:	$		-	-	515,233	515,233
(+) Senior Loan Issuance Fees:	$	154,570	-	-	-	-
(+) Repayment of Senior Loan:	$		-	-	-	14,426,533
(+) Prepayment Penalty on Senior Loan:	$		-	-	-	144,265
Total Cash Flows to Senior Lenders:	$	**$ (12,022,430)**	**$ (48,787)**	**$ (963,166)**	**$ 1,122,188**	**$ 16,102,072**
Internal Rate of Return (IRR):	%	**7.6%**				
Recovery:	%	100.0%				
Total Returns:	$	19,646,877				
Invested Amount:	$	15,457,000				
Cash-on-Cash Multiple:	x	1.3 x				

What is the PRIMARY reason why the Senior Lenders earn an IRR that's higher than the ~6% initial Interest Rate?

a. The Issuance Fee, which is ~1.3% of the initial Senior Loan Issued.

b. The Interest Rate is floating and increases by nearly 1.0% over the holding period.

c. The Principal Repayment returns some funds to the Senior Lenders before the exit in Year 4.

d. The Prepayment Penalty, which adds ~1% of the final Senior Loan balance to the exit proceeds.

e. The Holdback, which delays distribution of ~21% of the total loan amount.

6. **Initially, the LPs contributed 90% of the Equity to fund this deal, and the GPs contributed the remaining 10%.**

   The Waterfall Returns Schedule, which includes an 8% Preferred Return for the LPs, a 20% Catch-Up Return for the GPs, and an 80% / 20% cash flow split between the LPs and GPs after that, is shown below in the Base Case:

Equity Investors - Waterfall Returns Schedule:	*Units:*		Historical: FY18	Projected: FY19	FY20	FY21	FY22
Cash Flow to Equity Investors:							
(-) Invested Equity:	$		$ (6,328,350)	$ -	$ -	$ (335,394)	$ -
(+) Net Cash Flow After Debt Service:	$		-	607,410	653,870	-	17,250,126
Total Cash Flow to Equity Investors:	$		**(6,328,350)**	**607,410**	**653,870**	**(335,394)**	**17,250,126**
Limited Partners - Preferred Return of 8.0%:							
(+) Beginning Balance:	$		-	5,695,515	5,543,746	5,333,376	6,061,901
(+) Investor Injections:	$		5,695,515	-	-	301,855	-
(+) Investor Accruals:	$	8.0%		455,641	443,500	426,670	484,952
(-) Preferred Distribution:	$			(607,410)	(653,870)	-	(6,546,853)
Ending Balance:	$		**5,695,515**	**5,543,746**	**5,333,376**	**6,061,901**	**-**
Cash Flow Available for Catch-Up Distributions:	$			**-**	**-**	**-**	**10,703,274**
General Partners - Catch-Up Return of 20.0%:							
(+) Beginning Balance:	$		-	632,835	759,402	911,282	1,127,078
(+) Investor Injections:	$		632,835	-	-	33,539	-
(+) Investor Accruals:	$	20.0%		126,567	151,880	182,256	225,416
(-) Catch-Up Distribution:	$			-	-	-	(1,352,494)
Ending Balance:	$		**632,835**	**759,402**	**911,282**	**1,127,078**	**-**
Remaining Cash Flow Available for Distribution:	$			**-**	**-**	**-**	**9,350,780**
Cash Flow Split for Remaining Available Distributions:							
LP Cash Flow:	$	80.0%		-	-	-	7,480,624
GP Cash Flow:	$	20.0%		-	-	-	1,870,156
Remaining Cash to Distribute:	$			**-**	**-**	**-**	**-**

The key sensitivities across different cases, Exit Cap Rates, acquisition prices, renovation costs, and LTVs are shown below as well:

Sensitivity Analyses:

General Partners - IRR vs. Year 4 Exit Cap Rate and Market Scenario:

Market Scenario:	Year 4 Exit Cap Rate:							
	6.25%	6.50%	**6.75%**	**7.00%**	**7.25%**	7.50%	7.75%	8.00%
Upside	75.5%	72.8%	**70.1%**	**67.6%**	**65.1%**	62.7%	60.4%	58.1%
Base	58.5%	55.5%	**52.5%**	**49.6%**	**46.8%**	43.9%	41.1%	38.3%
Downside	24.9%	20.3%	**(10.0%)**	**#NUM!**	**#NUM!**	#NUM!	#NUM!	#NUM!

Limited Partners - IRR vs. Year 4 Exit Cap Rate and Market Scenario:

Market Scenario:	Year 4 Exit Cap Rate:							
	6.25%	6.50%	**6.75%**	**7.00%**	**7.25%**	7.50%	7.75%	8.00%
Upside	49.9%	47.8%	**45.8%**	**43.8%**	**41.9%**	40.0%	38.2%	36.4%
Base	36.3%	34.0%	**31.8%**	**29.6%**	**27.4%**	25.3%	23.2%	21.1%
Downside	11.4%	8.2%	**8.0%**	**6.3%**	**2.7%**	(1.1%)	(5.1%)	(9.4%)

General Partners - IRR vs. Acquisition Price and Market Scenario:

Market Scenario:	Acquisition Price:							
	$ 17,500,000	$ 18,500,000	$ 19,500,000	**$ 20,500,000**	$ 21,500,000	$ 22,500,000	$ 23,500,000	$ 24,500,000
Upside	83.4%	78.8%	74.4%	**70.1%**	66.0%	61.8%	57.8%	53.8%
Base	64.9%	59.8%	54.7%	**49.6%**	44.5%	39.4%	34.1%	28.6%
Downside	31.0%	23.3%	(17.9%)	**#NUM!**	#NUM!	#NUM!	#NUM!	#NUM!

Limited Partners - IRR vs. Acquisition Price and Market Scenario:

Market Scenario:	Acquisition Price:							
	$ 17,500,000	$ 18,500,000	$ 19,500,000	**$ 20,500,000**	$ 21,500,000	$ 22,500,000	$ 23,500,000	$ 24,500,000
Upside	58.3%	54.0%	49.7%	**45.8%**	42.0%	38.4%	34.9%	31.6%
Base	42.8%	38.3%	33.9%	**29.6%**	25.4%	21.4%	17.5%	13.6%
Downside	16.2%	10.4%	8.0%	**2.7%**	(4.4%)	(12.2%)	(21.1%)	(32.5%)

General Partners - IRR vs. Senior Loan LTV and Market Scenario:

Market Scenario:	Senior Loan LTV:							
	40.0%	45.0%	50.0%	55.0%	60.0%	**65.0%**	70.0%	75.0%
Upside	51.2%	53.7%	56.7%	60.3%	64.7%	**70.1%**	77.3%	87.1%
Base	36.6%	38.3%	40.4%	42.8%	45.8%	**49.6%**	54.7%	61.9%
Downside	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	**#NUM!**	#NUM!	#NUM!

Limited Partners - IRR vs. Senior Loan LTV and Market Scenario:

Market Scenario:	Senior Loan LTV:							
	40.0%	45.0%	50.0%	55.0%	60.0%	**65.0%**	70.0%	75.0%
Upside	30.7%	32.7%	35.1%	37.9%	41.3%	**45.8%**	51.6%	59.8%
Base	19.7%	21.0%	22.5%	24.3%	26.6%	**29.6%**	33.6%	39.3%
Downside	6.2%	5.8%	5.4%	4.7%	3.9%	**2.7%**	0.9%	(2.2%)

General Partners - IRR vs. Renovation Costs % Acquisition Price and Market Scenario:

Market Scenario:	Renovation Costs % Acquisition Price:							
	10.0%	11.3%	12.5%	13.8%	**15.0%**	16.3%	17.5%	18.8%
Upside	73.8%	72.9%	72.0%	71.1%	**70.1%**	69.2%	68.3%	67.4%
Base	53.8%	52.8%	51.7%	50.7%	**49.6%**	48.6%	47.5%	46.5%
Downside	#NUM!	#NUM!	#NUM!	#NUM!	**#NUM!**	#NUM!	#NUM!	#NUM!

Limited Partners - IRR vs. Renovation Costs % Acquisition Price and Market Scenario:

Market Scenario:	Renovation Costs % Acquisition Price:							
	10.0%	11.3%	12.5%	13.8%	**15.0%**	16.3%	17.5%	18.8%
Upside	49.4%	48.6%	47.8%	46.8%	**45.8%**	44.7%	43.7%	42.6%
Base	33.2%	32.3%	31.4%	30.6%	**29.6%**	28.5%	27.5%	26.5%
Downside	8.0%	6.8%	5.5%	4.1%	**2.7%**	1.2%	(0.2%)	(1.7%)

Based on these results, what is the most REALISTIC way to improve this deal's returns for the General Partners while still keeping it acceptable for the Limited Partners?

a. Reduce the acquisition price to the $17 – $18 million range.

b. If Cap Rates are too high by Year 4 due to an ongoing market downturn, hold the property until they fall to lower levels.

c. Use a lower Senior Loan LTV and negotiate for a lower LP Preferred Return in exchange for a higher GP Equity contribution or a lower Catch-Up Return.

d. Reduce the Renovation Costs to 10% of the acquisition price rather than 15%.

e. All of the above are equally realistic ways to improve the deal for the GPs while keeping it acceptable for the LPs.