

	A	B	C	D	E	F	G	H	
1	FIL 260 Spreadsheet Homework Problem 3: Real Estate Investment (this output is for the practice input values, not the ones to submit)								
2	Student Name								
3									
4	Total Property Purchase Price	9100000		Owner's Equity Investment (Purchase Price - Loan)				=B4-B7	
5	Land Value	1950000							
6	Depreciable Life in Years (Rental Residential)	27.5		Depreciable Basis (Purchase Price - Land Value)				=B4-B5	
7	Amount Borrowed on Loan	6400000		Depreciation in Yr. 2, 3, or 4 ((Purch Price - Land)/Life)				=H6/B6	
8	Loan Amortization Period in Years	25		Depreciation Yr. 1 or 5 (11.5/12 of Yr. 2 - 4 value)				=H7*11.5/12	
9	Annual Stated (APR) Interest Rate on Loan	0.078							
10	Initial Monthly Rent per Unit	1720		Three years of depreciation, years 2 - 4		=3*H7			
11	Number of Units	48		Two years of depreciation, years 1 & 5		=2*H8			
12	Expected Annual Rent Percentage Increase	0.03		Total depreciation claimed (recaptured under Sec. 1250)		=G10+G11			
13	Expected Annual Vacancy/Uncollectible Percentage	0.05		Remaining book value at end of yr 5 (Purch Pr - Tot Depr):				=B4-G12	
14	Operating Expense Percentage	0.33							
15	Expected Resale Price	11300000		Initial Annual Rent (monthly rent x 12 x # units)				=B11*B10*12	
16	Expected Selling Expense Percentage	0.06							
17	Investor's Required Return on Equity	0.105		Loan Amortization Period in Months (# years x 12)				=B8*12	
18	Investor's Ordinary Income Tax Rate	0.34		Monthly Interest Rate on Loan (annual rate ÷ 12)				=B9/12	
19	Ordinary Capital Gain Tax Rate	0.15		Monthly Loan Payment (from loan payment formula)				=B7/((1-(1+H18)^-H17)/H18)	
20	Section 1250 Depreciation Recapture Tax Rate	0.25		Annual Loan Payment Total (monthly payment x 12)				=H19*12	
21									
22	Net Present Value (as computed below)	=H76	=IF(B22>=0,"Investment is acceptable since NPV is \$0 or greater","Investment is unacceptable since NPV is less than \$0")						
23	Internal Rate of Return (as computed below)	=H74	=IF(B23>=B17,"Investment acceptable since IRR equal to or greater than req. annual return","Investment unacceptable since IRR less than req. annual return")						
24									
25	Loan to Value Ratio (L/V)	=B7/B4		Initial Year's Debt Coverage Ratio (DCR)		=C55/F31			
26									
27	LOAN AMORTIZATION INFORMATION								
28			Ending	Initial	Ending	Year's			
29		Year	Month	Principal	Principal	Total	Principal	Interest	
30				Owed	Owed	Payment	Repaid	Paid	
31		0	0						
32		=B30+1	=C30+12	=E30	=B7	=H\$19*((1-(1+\$H\$18)^-(\$H\$17-C31))/(\$H\$18))	=H\$520	=D31-E31	=F31-G31
33		=B31+1	=C31+12	=E31		=H\$19*((1-(1+\$H\$18)^-(\$H\$17-C32))/(\$H\$18))	=H\$520	=D32-E32	=F32-G32
34		=B32+1	=C32+12	=E32		=H\$19*((1-(1+\$H\$18)^-(\$H\$17-C33))/(\$H\$18))	=H\$520	=D33-E33	=F33-G33
35		=B33+1	=C33+12	=E33		=H\$19*((1-(1+\$H\$18)^-(\$H\$17-C34))/(\$H\$18))	=H\$520	=D34-E34	=F34-G34
36		=B34+1	=C34+12	=E34		=H\$19*((1-(1+\$H\$18)^-(\$H\$17-C35))/(\$H\$18))	=H\$520	=D35-E35	=F35-G35
37	CAPITAL GAIN TAX								
38	Gross Selling Price	=B15		AFTER-TAX EQUITY REVERSION					
39	Minus Selling Expense	=B16*B38		Gross Selling Price			=B15		
40	Equals Net Selling Price	=B38-B39		Minus Selling Expense			=B16*G38		
41	Minus Remaining Book Value	=H13		Equals Net Selling Price			=G38-G39		
42	Equals Capital Gain	=B40-B41		Minus Loan Payoff (see above)			=E35		
43	Minus Section 1250 Depreciation Recapture	=G12		Equals Before-Tax Equity Reversion			=G40-G41		
44	Ordinary Capital Gain	=B42-B43		Minus Capital Gain Tax			=B48		
45				Equals After-Tax Equity Reversion			=G42-G43		
46	Tax on Section 1250 Depreciation Recapture	=B43*B20							
47	Tax on Ordinary Capital Gain	=B44*B19							
48	Total Tax on Capital Gain	=B46+B47							
49									
50	CASH FLOW COMPUTATION								
51		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5		
52	Potential Gross Income (PGI)		=H15	=C51*(1+B12)	=D51*(1+B12)	=E51*(1+B12)	=F51*(1+B12)		
53	Minus Losses from Vacancy and Uncollectibles		=B\$13*C51	=B\$13*D51	=B\$13*E51	=B\$13*F51	=B\$13*G51		
54	Equals Effective Gross Income (EGI)		=C51-C52	=D51-D52	=E51-E52	=F51-F52	=G51-G52		
55	Minus Operating Expenses		=B\$14*C53	=B\$14*D53	=B\$14*E53	=B\$14*F53	=B\$14*G53		
56	Equals Net Operating Income (NOI)		=C53-C54	=D53-D54	=E53-E54	=F53-F54	=G53-G54		
57	Minus Debt Service (see above)		=H\$520	=H\$520	=H\$520	=H\$520	=H\$520		
58	Equals Before Tax Cash Flow to Equity (BTCF)		=C55-C56	=D55-D56	=E55-E56	=F55-F56	=G55-G56		
59	Minus Income Tax (see below)		=C69	=D69	=E69	=F69	=G69		
60	Equals After Tax Cash Flow to Equity (ATCF)		=C57-C58	=D57-D58	=E57-E58	=F57-F58	=G57-G58		
61	Amount (Paid)/Received from Transaction	=H4					=G44		
62									
63	INCOME TAX COMPUTATION								
64	Net Operating Income		=C55	=D55	=E55	=F55	=G55		
65	Minus Interest Expense (see above)		=H31	=H32	=H33	=H34	=H35		
66	Minus Depreciation		=H8	=H7	=H7	=H7	=H8		
67	Equals Taxable Income		=C64-C65-C66	=D64-D65-D66	=E64-E65-E66	=F64-F65-F66	=G64-G65-G66		
68									
69	Income Tax @ Ordinary Income Tax Rate%		=C67*\$B\$18	=D67*\$B\$18	=E67*\$B\$18	=F67*\$B\$18	=G67*\$B\$18		
70									
71	NPV COMPUTATION								
72		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5		
73	After Tax Cash Flow to Equity (ATCF)	=H4	=C59	=D59	=E59	=F59	=G59		
74	After Tax Equity Reversion (ATER)						=G44		
75	Total of ATCF + ATER	=B72+B73	=C72+C73	=D72+D73	=E72+E73	=F72+F73	=G72+G73	=IRR(B74:G74)	
76	PV Factor @ Investor's Required Annual ROE	=(1+\$B\$17)^-B30	=(1+\$B\$17)^-B31	=(1+\$B\$17)^-B32	=(1+\$B\$17)^-B33	=(1+\$B\$17)^-B34	=(1+\$B\$17)^-B35	NPV:	
77	PV of Total Cash Flows	=B74*B75	=C74*C75	=D74*D75	=E74*E75	=F74*F75	=G74*G75	=SUM(B76:G76)	