

|    | A  | B                 | C                 | D  | E                 | F                 | G                 | H                        |
|----|--|-------------------|-------------------|--|-------------------|-------------------|-------------------|--------------------------|
| 1  | <b>FIL 260 Spreadsheet Homework Problem 3: Real Estate Investment (this output is for the practice input values, not the ones to submit)</b> |                   |                   |  |                   |                   |                   |                          |
| 2  | Student Name   |                   |                   |  |                   |                   |                   |                          |
| 3  |  |                   |                   |  |                   |                   |                   |                          |
| 4  | Total Property Purchase Price  | 6450000           |                   | Owner's Equity Investment (Purchase Price - Loan)  |                   |                   |                   | =B4-B7                   |
| 5  | Land Value   | 1440000           |                   |  |                   |                   |                   |                          |
| 6  | Depreciable Life in Years (Rental Residential)   | 27.5              |                   | Depreciable Basis (Purchase Price - Land Value)  |                   |                   |                   | =B4-B5                   |
| 7  | Amount Borrowed on Loan  | 3900000           |                   | 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  | 0.075             |                   |  |                   |                   |                   |                          |
| 10 | Initial Monthly Rent per Unit  | 1380              |                   | Three years of depreciation, years 2 - 4   |                   |                   | =3*H7             |                          |
| 11 | Number of Units  | 44                |                   | Two years of depreciation, years 1 & 5   |                   |                   | =2*H8             |                          |
| 12 | Expected Annual Rent Percentage Increase   | 0.028             |                   | Total depreciation claimed (recaptured under Sec. 1250)  |                   |                   | =G10-G11          |                          |
| 13 | Expected Annual Vacancy/Uncollectible Percentage   | 0.046             |                   | Remaining book value at end of yr 5 (Purch Pr - Tot Depr):   |                   |                   |                   | =B4-G12                  |
| 14 | Operating Expense Percentage   | 0.35              |                   |  |                   |                   |                   |                          |
| 15 | Expected Resale Price  | 8100000           |                   | 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   | 0.098             |                   | 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+(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 | <b>LOAN AMORTIZATION INFORMATION</b>   |                   |                   |  |                   |                   |                   |                          |
| 28 |  | Ending            |                   | Initial  |                   | Ending            |                   | Year's                   |
| 29 | Year   | Month             |                   | Principal  |                   | Principal         |                   | Total                    |
| 30 |  |                   |                   | Owed   |                   | Owed              |                   | Payment                  |
| 31 | 0  | 0                 |                   |  |                   |                   |                   |                          |
| 32 | =B30+1   | =C30+12           | =E30              | =H519*((1-(1+H518)^-H517-C31)/H518)  | =H520             | =D31-E31          | =F31-G31          |                          |
| 33 | =B31+1   | =C31+12           | =E31              | =H519*((1-(1+H518)^-H517-C32)/H518)  | =H520             | =D32-E32          | =F32-G32          |                          |
| 34 | =B32+1   | =C32+12           | =E32              | =H519*((1-(1+H518)^-H517-C33)/H518)  | =H520             | =D33-E33          | =F33-G33          |                          |
| 35 | =B33+1   | =C33+12           | =E33              | =H519*((1-(1+H518)^-H517-C34)/H518)  | =H520             | =D34-E34          | =F34-G34          |                          |
| 36 | =B34+1   | =C34+12           | =E34              | =H519*((1-(1+H518)^-H517-C35)/H518)  | =H520             | =D35-E35          | =F35-G35          |                          |
| 37 | <b>CAPITAL GAIN TAX</b>  |                   |                   |  |                   |                   |                   |                          |
| 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*B38          |                          |
| 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 | <b>CASH FLOW COMPUTATION</b>   |                   |                   |  |                   |                   |                   |                          |
| 51 | Potential Gross Income (PGI)   | =H15              | =C51*(1+B12)      | =D51*(1+B12)   | =E51*(1+B12)      | =F51*(1+B12)      | =G51*(1+B12)      |                          |
| 52 | Minus Losses from Vacancy and Uncollectibles   | =SB513*C51        | =SB513*D51        | =SB513*E51   | =SB513*F51        | =SB513*G51        | =SB513*H51        |                          |
| 53 | Equals Effective Gross Income (EGI)  | =C51-C52          | =D51-D52          | =E51-E52   | =F51-F52          | =G51-G52          | =H51-H52          |                          |
| 54 | Minus Operating Expenses   | =SB514*C53        | =SB514*D53        | =SB514*E53   | =SB514*F53        | =SB514*G53        | =SB514*H53        |                          |
| 55 | Equals Net Operating Income (NOI)  | =C53-C54          | =D53-D54          | =E53-E54   | =F53-F54          | =G53-G54          | =H53-H54          |                          |
| 56 | Minus Debt Service (see above)   | =SH520            | =SH520            | =SH520   | =SH520            | =SH520            | =SH520            |                          |
| 57 | Equals Before Tax Cash Flow to Equity (BTCF)   | =C55-C56          | =D55-D56          | =E55-E56   | =F55-F56          | =G55-G56          | =H55-H56          |                          |
| 58 | Minus Income Tax (see below)   | =C69              | =D69              | =E69   | =F69              | =G69              | =H69              |                          |
| 59 | Equals After Tax Cash Flow to Equity (ATCF)  | =C57-C58          | =D57-D58          | =E57-E58   | =F57-F58          | =G57-G58          | =H57-H58          |                          |
| 60 |  |                   |                   |  |                   |                   |                   |                          |
| 61 | Amount (Paid)/Received from Transaction  | =-H4              |                   |  |                   |                   | =G44              |                          |
| 62 |  |                   |                   |  |                   |                   |                   |                          |
| 63 | <b>INCOME TAX COMPUTATION</b>  |                   |                   |  |                   |                   |                   |                          |
| 64 | Net Operating Income   | =C55              | =D55              | =E55   | =F55              | =G55              | =H55              |                          |
| 65 | Minus Interest Expense (see above)   | =H31              | =H32              | =H33   | =H34              | =H35              | =H36              |                          |
| 66 | Minus Depreciation   | =H8               | =H7               | =H7  | =H7               | =H8               | =H8               |                          |
| 67 | Equals Taxable Income  | =C64-C65-C66      | =D64-D65-D66      | =E64-E65-E66   | =F64-F65-F66      | =G64-G65-G66      | =H64-H65-H66      |                          |
| 68 |  |                   |                   |  |                   |                   |                   |                          |
| 69 | Income Tax @ Ordinary Income Tax Rate%   | =C67*SB518        | =D67*SB518        | =E67*SB518   | =F67*SB518        | =G67*SB518        | =H67*SB518        |                          |
| 70 |  |                   |                   |  |                   |                   |                   |                          |
| 71 | <b>NPV COMPUTATION</b>   |                   |                   |  |                   |                   |                   |                          |
| 72 | After Tax Cash Flow to Equity (ATCF)   | =-H4              | =C59              | =D59   | =E59              | =F59              | =G59              |                          |
| 73 | After Tax Equity Reversion (ATER)  |                   |                   |  |                   |                   | =G44              |                          |
| 74 | Total of ATCF + ATER   | =B72+B73          | =C72+C73          | =D72+D73   | =E72+E73          | =F72+F73          | =G72+G73          | =IRR(B74:G74)            |
| 75 | PV Factor @ Investor's Required Annual ROE   | =1/(1+SB517)^-B30 | =1/(1+SB517)^-B31 | =1/(1+SB517)^-B32  | =1/(1+SB517)^-B33 | =1/(1+SB517)^-B34 | =1/(1+SB517)^-B35 | NPV:                     |
| 76 | PV of Total Cash Flows   | =B74*B75          | =C74*C75          | =D74*D75   | =E74*E75          | =F74*F75          | =G74*G75          | =SUM(B76:G76)            |