

**Income Approach  
Problem # 2 (A)  
Gross Rent Multiplier Problem**

The subject property is a single family dwelling which is rented for \$475 per month.

The market rent is also \$475 per month. Develop a GRM from the following data and use it to calculate a possible indication of value.

Sales

|                    | 1        | 2        | 3        | 4        | 5        |
|--------------------|----------|----------|----------|----------|----------|
| Sale Price         | \$60,000 | \$72,000 | \$65,000 | \$62,000 | \$68,000 |
| Monthly Rent (EGI) | \$425    | \$520    | \$460    | \$450    | \$490    |
| GRM                |          |          |          |          |          |



**Income Approach**  
**Problem # 2 (A) Answer**  
**Gross Rent Multiplier Problem**

The subject property is a single family dwelling which is rented for \$475 per month. The market rent is also \$475 per month. Develop a GRM from the following data and use it to calculate a possible indication of value.

Sales

|                    | 1        | 2        | 3        | 4        | 5        |
|--------------------|----------|----------|----------|----------|----------|
| Sale Price         | \$60,000 | \$72,000 | \$65,000 | \$62,000 | \$68,000 |
| Monthly Rent (EGI) | \$425    | \$520    | \$460    | \$450    | \$490    |
| GRM                | 141.2    | 138.5    | 141.3    | 137.8    | 138.8    |

GRM = Sales Price divided by the Monthly Rent (EGI)

Median is 138.8

Possible indication of value: Market rent of \$475 times 138.8 = \$65,930 rounded to \$65,900



**Income Approach  
Problem # 2 (B)  
Gross Income Multiplier Problem**

The subject property produces Gross Annual Effective Gross Income of \$72,000. Analysis of rents and sales of comparable properties rendered the following. Based upon this information calculate a Gross Income Multiplier (GIM) and then calculate indication of value for subject property.

| Sale | Sale Price | EGI      | Gross Income Multiplier |
|------|------------|----------|-------------------------|
| 1    | \$675,000  | \$75,000 |                         |
| 2    | \$600,000  | \$68,000 |                         |
| 3    | \$720,000  | \$85,700 |                         |
| 4    | \$750,000  | \$87,500 |                         |
| 5    | \$650,000  | \$73,000 |                         |

| Gross Income Multiplier Range |
|-------------------------------|
|                               |
|                               |
|                               |
|                               |

Estimated value of subject property:

Value using Low range (Low range is the lowest of the GIMs)

Value using High range (High range is the highest of the GIMs)

Value using Median

|  |
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**Income Approach  
Problem # 2 (B) Answer  
Gross Income Multiplier Problem**

The subject property produces Gross Annual Effective Gross Income of \$72,000. Analysis of rents and sales of comparable properties rendered the following. Based upon this information calculate a Gross Income Multiplier (GIM) and then calculate indication of value for subject property.

| Sale | Sale Price | EGI      | Gross Income Multiplier |
|------|------------|----------|-------------------------|
| 1    | \$675,000  | \$75,000 | 9.0                     |
| 2    | \$600,000  | \$68,000 | 8.8                     |
| 3    | \$720,000  | \$85,700 | 8.4                     |
| 4    | \$750,000  | \$87,500 | 8.6                     |
| 5    | \$650,000  | \$73,000 | 8.9                     |

| Gross Income Multiplier Range |
|-------------------------------|
| 8.4                           |
| 8.6                           |
| 8.8                           |
| 8.9                           |
| 9.0                           |

GIM = Sale Price divided by the EGI

Possible indicated range of value:

Subject property EGI of \$72,000 times low range = 8.4

Subject property EGI of \$72,000 times high range = 9.0

Subject property EGI of \$72,000 times median range = 8.8

|           |
|-----------|
| \$604,800 |
| \$648,000 |
| \$633,600 |



**Income Approach**  
**Problem # 3(a)**  
**Belle River Office Building**  
**Determine PGI, EGI, and NOI**

You are appraising an office building in the Belle River complex. The building is three stories high and contains 20,000 square feet on each floor. The net leasable area on each floor is 17,500 square feet. There are three offices on each floor, but the square footage per office varies with the client. The leases have been entered into at various times over the past four years. The current rent roll is as follows:

| First Floor            | Area  | Total Rent Paid |
|------------------------|-------|-----------------|
| Thomas and Associates  | 3,750 | \$ 69,375       |
| Katz, Katz, and Doggz  | 8,250 | \$ 123,750      |
| Kelley Engineering     | 5,500 | \$ 88,000       |
| Second Floor           |       |                 |
| Second Job Agency      | 4,000 | \$ 72,000       |
| Paperman Publishing    | 9,200 | \$ 142,600      |
| Vacant                 | 4,300 | \$ -            |
| Third Floor            |       |                 |
| Silverman and Goldman  | 8,000 | \$ 128,000      |
| Leland Entertainment   | 3,000 | \$ 51,000       |
| Media Heaven Ad Agency | 6,500 | \$ 110,500      |

In researching the market, you have found that recently negotiated office rent in the same type location is running \$20.10 per square foot.

What is the Potential Gross Income for your subject property?

The market collection loss for office space in this area is 1.2%. Using this rate develop a vacancy and collection loss rate for the subject building.

Using the above information, what is the Effective Gross Income of the subject?



**Income Approach**  
**Problem # 3(a) Answers**  
**Belle River Office Building - Determine PGI, EGI, and NOI**

PGI

17,500 sq. ft. NLA on each floor; complex has 3 floors.  
 $17,500 \times 3 = 52,500$  sq ft.

Market Rent is \$20.10 per sq. ft.  
 $\$20.10 \times 52,500 = \underline{\$1,055,250}$

Vacancy Rate

There is one vacant office of 4,300 sq. ft.  
 $4,300 \div 52,500 = \underline{8.2\%}$

Vacancy and Collection Loss Rate (V&C)

Vacancy Rate is 8.2% and the Collection Loss Rate is 1.2%.  
 $8.2\% + 1.2\% = \underline{9.4\%}$

EGI

PGI = \$1,055,250 and the V&C = 9.4%  
No Miscellaneous Income is listed.

PGI \$1,055,250  
- V&C -\$99,194  
+ Misc. Inc. \$0  
= EGI \$956,056



**Income Approach Problem # 3(b)**  
**Belle River Office Building - Determine PGI, EGI, and NOI**

The property management company of Bell River Complex (from slide 142) has furnished you with this operating statement. Upon further analysis, you have determined that the operating statement is incorrect for ad valorem purposes. Reconstruct the operating statement using information from slide 143 (PGI, V&C, and EGI), remove any improper expenses listed below, and find the correct NOI for the property.

Belle River Office Building  
 Operating Statement as filed

|   |                    |                       |
|---|--------------------|-----------------------|
| Potential Gross Income                  | \$ 785,225.00      |                       |
| Less: Vacancy and Collection Loss 8.2%) | \$ (64,388.00)     |                       |
| Add: Miscellaneous Income               | <u>\$0.00</u>      |                       |
| Effective Gross Income                  |                    | \$ 720,837.00         |
| Less operating expenses:                |                    |                       |
| Management Fees (10% of EGI)            | \$ (72,084.00)     |                       |
| Property Taxes                          | \$ (28,457.00)     |                       |
| Lawn Care                               | \$ (2,300.00)      |                       |
| Supplies/Maintenance                    | \$ (7,248.00)      |                       |
| Maintenance Salaries/Benefits           | \$ (28,340.00)     |                       |
| Common Lighting                         | \$ (1,345.00)      |                       |
| Water and Sewer                         | \$ (6,573.00)      |                       |
| Electricity                             | \$ (11,965.00)     |                       |
| Gas                                     | \$ (15,996.00)     |                       |
| Liability Insurance                     | \$ (7,100.00)      |                       |
| Debt Service                            | \$(173,900.00)     |                       |
| Snow Removal                            | \$ (1,100.00)      |                       |
| Income taxes                            | \$ (61,230.00)     |                       |
| Donation to City Festival               | \$ (500.00)        |                       |
| Christmas party for tenants             | \$ (1,345.00)      |                       |
| Casualty Insurance (3 year policy)      | \$ (845.00)        |                       |
| Membership in trade association         | \$ (1,500.00)      |                       |
| Flower fund                             | <u>\$ (734.00)</u> |                       |
| Total operating expenses                |                    | \$(422,562.00)        |
| Less Reserve for Replacements           |                    | <u>\$ (22,500.00)</u> |
| Net Operating Income                    |                    | \$ 275,775.00         |



**Income Approach Problem # 3(b) Answer**  
**Belle River Office Building - Determine PGI, EGI, and NOI**

|   | <u>Area</u>   | <u>Market Rent</u> | <u>PGI</u>             |
|---|---------------|--------------------|------------------------|
| First Floor                                   |               |                    |                        |
| Thomas and Associates                         | 3,750         | \$20.10            | \$75,375               |
| Katz, Katz and Doggz                          | 17,500        | \$20.10            | \$165,825              |
| Kelley Engineering                            | 5,500         | \$20.10            | \$110,550              |
| Second Floor                                  |               |                    |                        |
| Second Job Agency                             | 4,000         | \$20.10            | \$80,400               |
| Paperman Publishing                           | 17,500        | \$20.10            | \$184,920              |
| Vacant  | 4,300         | \$20.10            | \$86,430               |
| Third Floor                                   |               |                    |                        |
| Silverman & Goldman                           | 8,000         | \$20.10            | \$160,800              |
| Leland Entertainment                          | 17,500        | \$20.10            | \$60,300               |
| Media Heaven Advertising Agency               | 6,500         | \$20.10            | \$130,650              |
| <b>Total Net Leasable Area =</b>              | <b>52,500</b> |                    | <b>\$1,055,250</b> PGI |
| <hr style="border-top: 1px dashed black;"/>   |               |                    |                        |
| POTENTIAL GROSS INCOME                        |               | \$1,055,250        | PGI                    |
| LESS: VACANCY LOSS AND COLLECTION LOSS        |               | (\$99,194)         |                        |
| ADD: MISCELLANEOUS INCOME                     |               | \$0                |                        |
| EFFECTIVE GROSS INCOME                        |               | \$956,056          | EGI                    |
| LESS: OPERATING EXPENSES                      |               |                    |                        |
| MANAGEMENT FEES (10% OF EGI)                  |               | (\$95,606)         |                        |
| LAWN CARE                                     |               | (\$2,300)          |                        |
| SUPPLIES/MAINTENANCE                          |               | (\$7,248)          |                        |
| MAINTENANCE SALARIES/BENEFITS                 |               | (\$28,340)         |                        |
| COMMON LIGHTING                               |               | (\$1,345)          |                        |
| WATER & SEWER                                 |               | (\$6,573)          |                        |
| ELECTRICITY                                   |               | (\$11,965)         |                        |
| GAS   |               | (\$15,996)         |                        |
| LIABILITY INSURANCE                           |               | (\$7,100)          |                        |
| SNOW REMOVAL                                  |               | (\$1,100)          |                        |
| CASUALTY INSURANCE 3 YR POLICY-PRO RATE 845/3 |               | (\$282)            |                        |
| MEMBERSHIP IN TRADE ASSOCIATION               |               | (\$1,500)          |                        |
| RESERVE FOR REPLACEMENTS                      |               | (\$22,500)         |                        |
| NET OPERATING INCOME                          |               | \$754,201          | NOI                    |

|                      |            |      |
|----------------------|------------|------|
| NLA Vacancy Rate     | 4300/52500 | 8.2% |
| Collection Rate Loss | +          | 1.2% |
| V & C Rate Loss =    |            | 9.4% |

  

|                 |             |
|-----------------|-------------|
| PGI             | \$1,055,250 |
| VAC & COLL LOSS | 9.4%        |
| V&C \$ Amount = | \$99,194.00 |

