#1 - Calculate Assessment Level

If the effective tax rate is 1.8% and the tax rate is $3.00 per $100 of assessed value, what is the Assessment Level?

#1 - Calculate Assessment Level Answer

(Slide #21)

If the effective tax rate is 1.8% and the tax rate is $3.00 per $100 of assessed value, what is the Assessment Level?

Answer: **Formula: A = E / T**

A = 1.8% (or .018) / ($3.00 / $100.00)

A = .018 / .03

A = .6 or 60%

#2 - Calculate Effective Tax Rate

If the Tax Rate is $1.85 per $100 of assessed value and the Assessment Level is 35% what is the Effective Tax Rate?

#2 - Calculate Effective Tax Rate

(Slide #20)

If the Tax Rate is $1.85 per $100 of assessed value and the Assessment Ratio is 35% what is the Effective Tax Rate?

Answer: **T = $1.85 / $100**

T = .0185

E = T * A

E = .0185 * 35%

E = .006475 or .6475%

#3 - Calculating Personal Property Replacement Cost New (RCN)

Using the 15-year life table excerpt from the Personal Property Manual, calculate the Replacement Cost New (RCN) of business equipment purchased in 2014 for $15,000.

FIFTEEN (15) YEAR LIFE

NEVADA DEPARTMENT OF TAXATION

15 YEAR LIFE

200% DECLINING BALANCE

YEAR ACQUIRED	AGE	COST INDEX	PERCENT DEPRECIATION	PERCENT GOOD	CONVERSION FACTOR
2017	0	1.00	0.0	100.0	1.0000
2016	1	1.01	13.0	87.0	0.8787
2015	2	1.01	25.0	75.0	0.7575
2014	3	1.02	35.0	65.0	0.6630
2013	4	1.03	44.0	56.0	0.5768
2012	5	1.05	51.0	49.0	0.5145
2011	6	1.07	58.0	42.0	0.4494
2010	7	1.09	63.0	37.0	0.4033
2009	8	1.10	68.0	32.0	0.3520
2008	9	1.13	72.0	28.0	0.3164
2007	10	1.17	76.0	24.0	0.2808
2006	11	1.21	80.0	20.0	0.2420
2005	12	1.25	84.0	16.0	0.2000
2004	13	1.29	87.0	13.0	0.1677
2003	14	1.31	91.0	9.0	0.1179
2002	15	1.33	95.0	5.0	0.0665
Residual		1.33	95.0	5.0	0.0665

#3 - Calculating Personal Property Replacement Cost New (RCN) Answer

(Slide #61)

Using the 15-year life table excerpt from the Personal Property Manual, calculate the Replacement Cost New (RCN) of business equipment purchased new in 2014 for $15,000.

FIFTEEN (15) YEAR LIFE

NEVADA DEPARTMENT OF TAXATION

15 YEAR LIFE

200% DECLINING BALANCE

YEAR ACQUIRED	AGE	COST INDEX	PERCENT DEPRECIATION	PERCENT GOOD	CONVERSION FACTOR
2017	0	1.00	0.0	100.0	1.0000
2016	1	1.01	13.0	87.0	0.8787
2015	2	1.01	25.0	75.0	0.7575
2014	3	1.02	35.0	65.0	0.6630
2013	4	1.03	44.0	56.0	0.5768
2012	5	1.05	51.0	49.0	0.5145
2011	6	1.07	58.0	42.0	0.4494
2010	7	1.09	63.0	37.0	0.4033
2009	8	1.10	68.0	32.0	0.3520
2008	9	1.13	72.0	28.0	0.3164
2007	10	1.17	76.0	24.0	0.2808
2006	11	1.21	80.0	20.0	0.2420
2005	12	1.25	84.0	16.0	0.2000
2004	13	1.29	87.0	13.0	0.1677
2003	14	1.31	91.0	9.0	0.1179
2002	15	1.33	95.0	5.0	0.0665
Residual		1.33	95.0	5.0	0.0665

Answer: **Formula: RCN = Acquisition Cost * Cost Index Factor**

RCN = $15,000 * 1.02

RCN = $15,300

#4 - Calculating Personal Property Replacement Cost New (RCN)

Using the 15-year life table excerpt from the Personal Property Manual, calculate the Replacement Cost New (RCN) of business equipment purchased new 3 years ago for $15,000 and purchased July 1, 2017 by the current owner for $12,000.

FIFTEEN (15) YEAR LIFE

NEVADA DEPARTMENT OF TAXATION

15 YEAR LIFE

200% DECLINING BALANCE

YEAR ACQUIRED	AGE	COST INDEX	PERCENT DEPRECIATION	PERCENT GOOD	CONVERSION FACTOR
2017	0	1.00	0.0	100.0	1.0000
2016	1	1.01	13.0	87.0	0.8787
2015	2	1.01	25.0	75.0	0.7575
2014	3	1.02	35.0	65.0	0.6630
2013	4	1.03	44.0	56.0	0.5768
2012	5	1.05	51.0	49.0	0.5145
2011	6	1.07	58.0	42.0	0.4494
2010	7	1.09	63.0	37.0	0.4033
2009	8	1.10	68.0	32.0	0.3520
2008	9	1.13	72.0	28.0	0.3164
2007	10	1.17	76.0	24.0	0.2808
2006	11	1.21	80.0	20.0	0.2420
2005	12	1.25	84.0	16.0	0.2000
2004	13	1.29	87.0	13.0	0.1677
2003	14	1.31	91.0	9.0	0.1179
2002	15	1.33	95.0	5.0	0.0665
Residual		1.33	95.0	5.0	0.0665

#4 - Calculating Personal Property Replacement Cost New (RCN) Answer

(Slide #61)

Using the 15-year life table excerpt from the Personal Property Manual, calculate the Replacement Cost New (RCN) of business equipment purchased new 3 years ago for $15,000 and purchased July 1, 2017 by the current owner for $12,000.

FIFTEEN (15) YEAR LIFE

NEVADA DEPARTMENT OF TAXATION

15 YEAR LIFE

200% DECLINING BALANCE

YEAR ACQUIRED	AGE	COST INDEX	PERCENT DEPRECIATION	PERCENT GOOD	CONVERSION FACTOR
2017	0	1.00	0.0	100.0	1.0000
2016	1	1.01	13.0	87.0	0.8787
2015	2	1.01	25.0	75.0	0.7575
2014	3	1.02	35.0	65.0	0.6630
2013	4	1.03	44.0	56.0	0.5768
2012	5	1.05	51.0	49.0	0.5145
2011	6	1.07	58.0	42.0	0.4494
2010	7	1.09	63.0	37.0	0.4033
2009	8	1.10	68.0	32.0	0.3520
2008	9	1.13	72.0	28.0	0.3164
2007	10	1.17	76.0	24.0	0.2808
2006	11	1.21	80.0	20.0	0.2420
2005	12	1.25	84.0	16.0	0.2000
2004	13	1.29	87.0	13.0	0.1677
2003	14	1.31	91.0	9.0	0.1179
2002	15	1.33	95.0	5.0	0.0665
Residual		1.33	95.0	5.0	0.0665

Answer: **Formula: RCN = Acquisition Cost * Cost Index Factor**

RCN = $12,000 * 1.00

RCN = $12,000

#5 - Calculating Personal Property Depreciation

Using the life table excerpt below, calculate the Depreciation of the following personal property:

A business declares equipment in the following amounts: $5,000 three years ago, $2,000 two years ago, and $10,000 one year ago. Compute the depreciation (round to the nearest $100).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

5 - Calculating Personal Property Depreciation Answer

(Slide #62)

Using the life table excerpt below, calculate the Depreciation of the following personal property:

A business declares equipment in the following amounts: $5,000 three years ago, $2,000 two years ago, and $10,000 one year ago. Compute the depreciation (round to the nearest $100).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

Answer: **Formula: Depreciation = Acquisition Cost * Cost Index Factor * (1-% Good)**

Depreciation = $5,000 * 1.02 * (1-.65))

Depreciation = $1,785

Depreciation = $2,000 * 1.01 * (1-.75)

Depreciation = $505

Depreciation = $10,000 * 1.01 * (1-.87)

Depreciation = $1,313

Total Depreciation = $1,785 + $505 + $1,313 = $3,603

Round to the nearest $100 = $3,600

#6 - Calculating Personal Property RCNLD (Taxable Value)

Using the life table excerpt below, calculate the RCNLD of the following personal property:

A business declares equipment in the following amounts: $10,000 three years ago, $5,000 two years ago, and $3,000 one year ago. Compute the RCNLD or Taxable Value (round to the nearest $10).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

#6 - Calculating Personal Property RCNLD (Taxable Value) Answer

(Slide #63)

Using the life table excerpt below, calculate the RCNLD of the following personal property:

A business declares equipment in the following amounts: $10,000 three years ago, $5,000 two years ago, and $3,000 one year ago. Compute the RCNLD or Taxable Value (round to the nearest $10).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

Answer:

Formula: RCNLD = RCN (Acquisition Cost * Cost Index Factor) – Depreciation (RCN * 1-% Good)

RCN = $10,000 * 1.02 = $10,200
Depreciation = $10,200 * (1-.65)) = $3,570
RCNLD = $10,200 - $3,570 = $6,630
RCN = $5,000 * 1.01 = $5,050
Depreciation = $5,050 * (1-.75)) = $1262.50
RCNLD = $5,050 - $1,262.50 = $3,787.50
RCN = $3,000 * 1.01 = $3,030
Depreciation = $3,030 * (1-.87)) = $393.90
RCNLD = $3,030 - $393.90 = $2,636.10
Total RCNLD = $6,630 + 3,787.50 + 2,636.10 = $13,053.60
Round to the nearest $10 = $13,050

#7 - Calculating Personal Property Assessed Value

Using the life table excerpt below, calculate the assessed value of the following personal property:

A business declares equipment in the following amount: $25,000 three years ago and the assessment ratio is 35%. Compute the Assessed Value (round to the nearest $1).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

#7 - Calculating Personal Property Assessed Value Answer

(Slide #64)

Using the life table excerpt below, calculate the assessed value of the following personal property:

A business declares equipment in the following amount: $25,000 three years ago and the assessment ratio is 35%. Compute the Assessed Value (round to the nearest $1).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

Answer:

Formula: Assessed Value = RCNLD * Assessment Ratio

RCN = $25,000 * 1.02 = $25,500

Depreciation = $25,500 * (1-.65)) = $8,925

RCNLD = $25,500 - $8,925 = $16,575

Assessed Value = $16,575 * 35% = $5,801.25

Round to the nearest $1 = $5,801

#8 - Calculating Personal Property Taxes Due

Using the life table excerpt below, calculate the property taxes due of the following personal property:

A beauty salon has equipment as follows: $12,500 purchased 5 years ago. The assessment ratio is 35% and the tax rate is $2.87 per $100 assessed (round to the nearest $1).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

#8 - Calculating Personal Property Taxes Due Answer

(Slide #65)

Using the life table excerpt below, calculate the property taxes due of the following personal property:

A beauty salon has equipment as follows: $12,500 purchased 5 years ago. The assessment ratio is 35% and the tax rate is $2.87 per $100 assessed (round to the nearest $1).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

Answer:

Formula: Taxes Due = Assessed Value * Tax Rate

RCN = $12,500 * 1.05 = $13,125

Depreciation = $13,125 * (1-.49)) = $6,693.75

RCNLD = $13,125 - $6,693.75 = $6,431.25

Assessed Value = $6,431.25 * 35% = $2,250.94

Taxes Due = $2,250.94 * .0287 = $64.60

Round to the nearest $1 = $65

#9 - Calculating Manufactured Home Replacement Cost New (RCN)

Using the life table excerpt below, calculate replacement cost new of a mobile home that sold in 2003 for $54,000 (round to the nearest $10).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

#9 - Calculating Manufactured Home Replacement Cost New (RCN) Answer

(Slide #76)

Using the life table excerpt below, calculate replacement cost new of a mobile home that sold in 2003 for $54,000 (round to the nearest $10).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

Answer: Formula: Acquisition Cost * Cost Index = Replacement Cost New

$54,000 * 1.08 = $58,320

Round to the nearest $10 = $58,320

#10 - Calculating Manufactured Home Depreciation

Using the life table excerpt below, calculate depreciation of a mobile home that sold in 1997 for $142,000 (round to the nearest $10).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

#10 - Calculating Manufactured Home Depreciation Answer

(Slide #77)

Using the life table excerpt below, calculate depreciation of a mobile home that sold in 1997 for $142,000 (round to the nearest $10).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

Answer:

Formula: Depreciation = RCN * (1-% Good)

RCN = $142,000 * 1.19 = $168,980

Depreciation = $168,980 * (1-.55) = $76,041

Round to the nearest $10 = $76,040

#11 - Calculating Manufactured Home RCNLD or Taxable Value

Using the life table excerpt below, calculate RCNLD (Taxable Value) of a mobile home that sold in 2001 for $98,500 (round to the nearest $100).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

#11 - Calculating Manufactured Home RCNLD or Taxable Value Answer

(Slide #78)

Using the life table excerpt below, calculate RCNLD or Taxable Value of a mobile home that sold in 2001 for $98,500 (round to the nearest $100).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

Answer:

Formula: RCNLD = RCN - Depreciation

RCN = $98,500 * 1.16 = $114,260

Depreciation = $114,260 * (1-.75) = $28,565

RCNLD = $114,260 - $28,565 = $85,695

Round to the nearest $100 = $85,700

#12 - Calculating Manufactured Home Assessed Value

Using the life table excerpt below, calculate assessed value of a mobile home that sold in 2002 for $110,000 and an assessment ratio of 35% (round to the nearest $100).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

#12 - Calculating Manufactured Home Assessed Value Answer

(Slide #79)

Using the life table excerpt below, calculate assessed value of a mobile home that sold in 2002 for $110,000 and an assessment ratio of 35% (round to the nearest $100).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

Answer:

Formula: Assessed Value = RCNLD * Assessment Ratio

RCN = $110,000 * 1.11 = $122,100
Depreciation = $122,100 * (1-.80) = $24,420
RCNLD = $122,100 – 24,420 = $97,680
Assessed Value = $97,680 * 35% = $34,188
Round to the nearest $100 = $34,200

#13 - Calculating Manufactured Home Taxes Due

Using the life table excerpt below, calculate the taxes due of a mobile home that sold in 2006 for $155,000, an assessment ratio of 35% and a tax rate of $2.85 per $100 assessed (round to the nearest $1).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

#13 - Calculating Manufactured Home Taxes Due Answer

(Slide #80)

Using the life table excerpt below, calculate the taxes due of a mobile home that sold in 2006 for $155,000, an assessment ratio of 35% and a tax rate of $2.85 per $100 assessed (round to the nearest $1).

NEVADA DEPARTMENT OF TAXATION
2006-2007 COST CONVERSION FACTORS
MOBILE HOMES SOLD ON OR AFTER JULY 1, 1982
16-YEAR STRAIGHT LINE

Year First Sold	Age	Cost Index	Percent Depreciation	Percent Good
2006	0	1.00	0.0	100.0
2005	1	1.00	5.0	95.0
2004	2	1.00	10.0	90.0
2003	3	1.08	15.0	85.0
2002	4	1.11	20.0	80.0
2001	5	1.16	25.0	75.0
2000	6	1.17	30.0	70.0
1999	7	1.18	35.0	65.0
1998	8	1.18	40.0	60.0
1997	9	1.19	45.0	55.0
1996	10	1.20	50.0	50.0

Answer:

Formula: Taxes Due = Assessed Value * Tax Rate

RCN = $155,000 * 1.00 = $155,000
Depreciation = $155,000 * (0) = $0
RCNLD = $155,000 - $0 = $155,000
Assessed Value = $155,000 * 35% = $54,250
Taxes Due = $54,250 * (2.85/100) = $1,546.13
Round to the nearest $1 = $1,546

#14 - Calculating Migratory Property

Using the life table excerpt below, calculate the taxes due of migratory property that entered the county on November 1st and will not remain for the full year. The acquisition cost is $17,500 4 years ago; the assessment rate is 35% and the tax rate is $3.15 per $100 assessed value (round to the nearest $1).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

#14 - Calculating Migratory Property Answer

(Slide #87)

Using the life table excerpt below, calculate the taxes due of migratory property that entered the county on November 1st and will not remain for the full year. The acquisition cost is $17,500 4 years ago; the assessment rate is 35% and the tax rate is $3.15 per $100 assessed value (round to the nearest $1).

Age	Cost Index	Percent Depreciation	Percent Good
0	1.00	0.0	100.0
1	1.01	13.0	87.0
2	1.01	25.0	75.0
3	1.02	35.0	65.0
4	1.03	44.0	56.0
5	1.05	51.0	49.0

Answer:

Formula: **Fractional Reduction = July 1 – November 1 = 4/12**

RCN = $17,500 * 1.03 = $18,025

Fractional RCN = $18,025 * 4/12 = $6,008.33

Deduct Fractional RCN from RCN = $18,025 - $6,008.33 = $12,016.67

Depreciation = $12,016.67 – (1-.56) = $5,287.34

RCNLD = $12,016.67 - $5,287.34 = $6,729.34

Assessed Value = $6,729.34 * 35% = $2,355.27

Taxes Due = $2,355.27 * (3.15/100) = $74.19

Round to the nearest $1 = $74

#16 - Calculate Number of Acres From Legal Description

The S ½ of the NE ¼ of NE ¼ contains how many acres?

#16 - Calculate Number of Acres From Legal Description Answer

(Slide #135)

The S ½ of the NE ¼ of NE ¼ contains how many acres?

Answer: 1/2 * 1/4 * 1/4 = 1/32 * 640 ac = 20 ac

OR

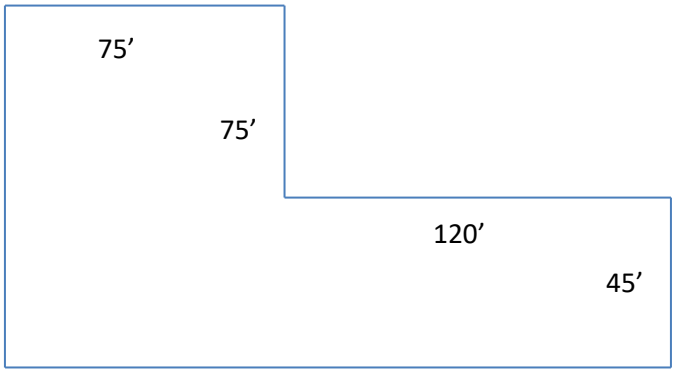
1/2 of 640 = 320 ac

¼ of 320 ac = 80 ac

¼ of 80 ac = 20 ac

#17 - Calculating Land Value Using Square Foot Method

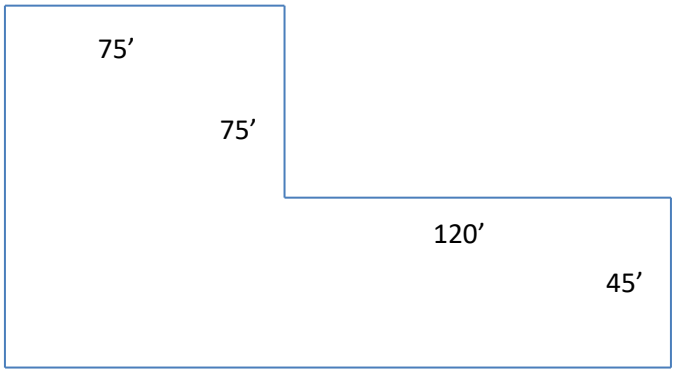
Find the taxable Value of this parcel using a comparable sale average price of $25.00 per square foot.



#17 - Calculating Land Value Using Square Foot Method Answer

(Slide #165)

Find the taxable Value of this parcel using a comparable sale average price of $25.00 per square foot.



Answer:

Calculate the left side of the square:

(75’ + 45’) * 75’ = 9000 sf

Calculate the rectangle

45’ * 120’ = 5,400 sf

Calculate the total area of the parcel

9,000 + 5,400 = 14,400 sf

Multiply the total area by the price per square foot

14,400 sf * $25 = $360,000

#18 - Calculating Land Value Using Cost Per Acre

The subject lot is 1,280’ x 3,500’. If the value is $25,000 per acre, what is the value of the subject (round to the nearest $100)?

#18 - Calculating Land Value Using Cost Per Acre Answer

(Slide #166)

The subject lot is 1,280' x 3,500'. If the value is $25,000 per acre, what is the value of the subject (round to the nearest $100)?

Answer: **Hint: 43,560 sf in an acre**

Calculate the area in sf

1280 * 3500 = 4,480,000

Calculate acres

4,480,000 / 43,560 = 102.846648301194 acres

Round to two decimal places

102.85 acres

Calculate the value of the subject parcel

102.85 acres * $25,000 = $2,571,250

Round to the nearest $100 = $2,571,300

#19 - Calculating Land Value Using Front Foot

The subject lot is a ½ acre vacant commercial lot with frontage on Reno Highway. If the lot is 360' in depth, what is the frontage. If the value per front foot is $27,000, what is the value of the lot on a front foot basis?

#19 - Calculating Land Value Using Front Foot Answer

(Slide #167)

The subject lot is a ½ acre vacant commercial lot with frontage on Reno Highway. If the lot is 360' in depth, what is the frontage. If the value per front foot is $27,000, what is the value of the lot on a front foot basis?

Answer: **Hint: 43,560 sf in an acre**

Calculate the frontage

43,560 / 2 = 21,780

21,780 / 360 = 60.5 front foot

Calculate the value

60.5 front foot * $27,000 = $1,633,500

#20 - Calculating Land Value Using Front Foot

Assume an owner wants to sell a rectangular parcel that is 6 acres with 300 linear feet of lake front footage. How deep is the lot? If the per front value is $55,000, what is the value?

#20 - Calculating Land Value Using Front Foot Answer

(Slide #168)

Assume an owner wants to sell a rectangular parcel that is 6 acres with 300 linear feet of lake front footage. How deep is the lot? If the per front value is $55,000, what is the value?

Answer: **Hint: 43,560 sf in an acre**

Calculate the total square feet of the lot

43,560 * 6 acres = 261,360 sf

Calculate the lot depth

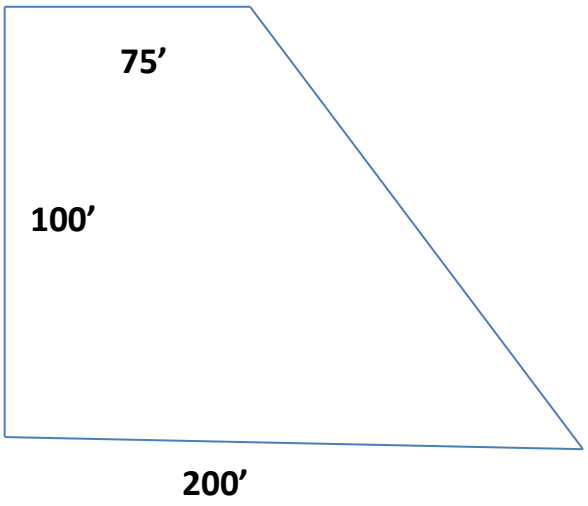
261,360 / 300 = 871.2'

Calculate the value

300' front footage * $55,000 = $16,500,000

#21 - Calculating Land Value Using 65%-35% Rule

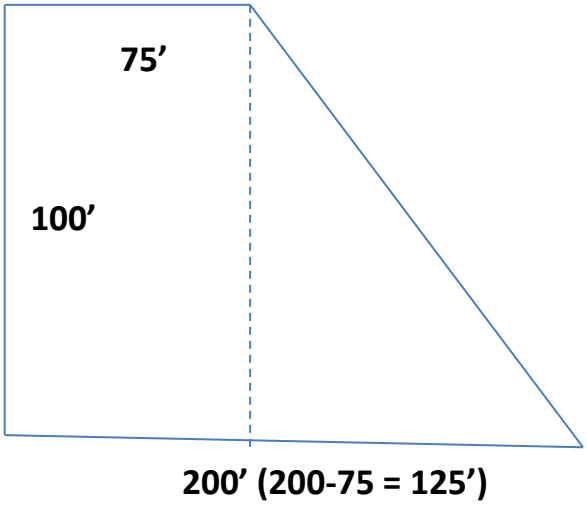
Calculate the value of the property if the frontage is 200’ and the front foot value is $150 using the 65%/35% rule (round to the nearest $10).



#21 - Calculating Land Value Using 65%-35% Rule Answer

(Slide #169)

Calculate the value of the property if the frontage is 200’ and the front foot value is $150 using the 65%/35% rule (round to the nearest $10).



Answer: **Calculate the Rectangle:**

75’ * $150 = $11,250.00

Calculate the Triangle:

(200-75 = 125’) * $150 * 65% = $12,187.50

Add the Values:

$11,250 + $12,187.50 = $23,437.50

Round to the nearest $10 = $23,440

#22 - Calculate Subject Property Value Using Sales Comparison

You are appraising a building site within an established single-family subdivision. You have found three recent comparable sales and have organized them into a market data grid. What is the value of the subject property?

The following adjustments are applicable:

- A rectangular site sells for $2,500 more than an irregular site
- A site with a good view sells for $2,500 more than a site with an average view.
- A site with good topography sells for $1,500 more than a site with average topography.

Element	Subject	Sale 1	Adjustment	Sale 2	Adjustment	Sale 3	Adjustment
Sales Price		$25,000		$18,500		$21,300	
Shape	Rectangular	Rectangular		Irregular		Rectangular	
View	Average	Good		Good		Good	
Topography	Average	Average		Average		Good	
Totals							

#22 - Calculate Subject Property Value Using Sales Comparison Answer

(Slide #177)

You are appraising a building site within an established single-family subdivision. You have found three recent comparable sales and have organized them into a market data grid. What is the value of the subject property?

The following adjustments are applicable:

- A rectangular site sells for $2,500 more than an irregular site
- A site with a good view sells for $2,500 more than a site with an average view.
- A site with good topography sells for $1,500 more than a site with average topography.

Element	Subject	Sale 1	Adjustment	Sale 2	Adjustment	Sale 3	Adjustment
Sales Price		$25,000		$18,500		$21,300	
Shape	Rectangular	Rectangular		Irregular		Rectangular	
View	Average	Good		Good		Good	
Topography	Average	Average		Average		Good	
Totals							

Adjust for shape: +$2,500 for irregular
Adjust for view: -$2,500 for good
Adjust for topography: -$1,500 for good

Element	Subject	Sale 1	Adjustment	Sale 2	Adjustment	Sale 3	Adjustment
Sales Price	**$22,500**	$25,000		$18,500		$21,300	
Shape	Rectangular	Rectangular	**$0**	Irregular	**+$2,500**	Rectangular	**$0**
View	Average	Good	**($2,500)**	Good	**($2,500)**	Good	**($2,500)**
Topography	Average	Average	**$0**	Average	**$0**	Good	**($1,500)**
Totals			**$25,000-$0-$2,500-$0 = $22,500**		**$18,500+$2,500-$2,500-$0 = $18,500**		**$21,300-$0-$2,500-$1,500 = $17,300**

#23 - Value Property Using Abstraction

The subject property sold for $59,500 and the improvement value is $24,250. Determine the land value using the abstraction method.

#23 - Value Property Using Abstraction Answer

(Slide #178)

The subject property sold for $59,500 and the improvement value is $24,250. Determine the land value using the abstraction method.

Answer: $59,500 - $24,250 = $35,250

#24 - Value Property Using Abstraction

Using abstraction, find the best base lot value:

	Sales Price	**Improvement Value**	**Land Value**
Sale 1	$175,000	$95,000	
Sale 2	$137,000	$79,000	
Sale 3	$210,000	$113,500	
Sale 4	$182,500	$108,000	

#24 - Value Property Using Abstraction Answer

(Slide #179)

Using abstraction, find the best base lot value:

	Sales Price	Improvement Value	Land Value
Sale 1	$175,000	$95,000	**$175,000-$95,000 = $80,000**
Sale 2	$137,000	$79,000	**$137,000-$79,000 = $58,000**
Sale 3	$210,000	$113,500	**$210,000-$113,500 = $96,500**
Sale 4	$182,500	$108,000	**$182,500-$108,000 = $74,500**
		Average	**$80,000+$58,000+$96,500+$74,500 = $309,000 / 4 = $77,250**
		Base Lot Value	**$77,250**

Step 1: Calculate the Land Value (Sales Price – Improvement Value)

Step 2: Average the land values for the best base lot indicator

#25 - Value Property Using the Allocation Method

The subject property has a land to building ratio of 1:4 and sold for $193,000. Determine the land value using the allocation method.

#25 - Value Property Using the Allocation Method Answer

(Slide #180)

The subject property has a land to building ratio of 1:4 and sold for $193,000. Determine the land value using the allocation method.

Answer: **1 part land, 4 parts building = 5 parts**

$193,000 / 5 = $38,600

#26 - Value Property Using the Allocation Method

Using the allocation method, what is the indicated land value for the subject property (round to the nearest $100)?

Sale	Sale Price	Vacant Lot Price	Allocation	
Subject	$273,000			
Sale 1	$233,500	$120,000		
Sale 2	$250,000	$170,000		
Sale 3	$225,000	$99,500		
Sale 4	$210,000	$95,000		

#26 - Value Property Using the Allocation Method Answer

(Slide #181)

Using the allocation method, what is the indicated land value for the subject property (round to the nearest $100)?

Hint: Rate (R) = Value (V) / Sale Price (I)

Sale	Sale Price	Vacant Lot Price	Allocation	
Subject	$273,000			**$273,000 * .52213 = $142,541.50**
Sale 1	$233,500	$120,000	**$120,000 / $233,500 = .51392**	
Sale 2	$250,000	$170,000	**170,000 / $250,000 = .68000**	
Sale 3	$225,000	$99,500	**$99,500 / $225,000 = .44222**	
Sale 4	$210,000	$95,000	**$95,000 / $210,000 = .45238**	
			Average	**(.51392+.68000+.44222+.45238) / 4 = .52213**

Step 1: Calculate the allocation percentage Lot Price / Sale Price)

Step 2: Average the allocation percentage

Step 3: Multiply the allocation average by the subject sale price

Step 4: Round to the nearest $100

$142,541.50 = $142,500

#27 - Value Property Using Capitalization of Ground Rent

A vacant parcel is rented for $9,500 / year on a net lease having 15 years to run. 6% is considered a fair return. What is the capitalized value of the land (round to the nearest $1)?

#27 - Value Property Using Capitalization of Ground Rent Answer

(Slide #182)

A vacant parcel is rented for $9,500 / year on a net lease having 15 years to run. 6% is considered a fair return. What is the capitalized value of the land (round to the nearest $1)?

Answer: **Hint: Income (I) = Value (V) / Rate (R)**

$9,500 / 6% = $158,333.30

Round to the nearest $1 = $158,333

#28 - Value Property Using the Land Residential Technique

The Net Operating Income of the property is $55,000. The income attributable to the building is $35,000. If the land capitalization rate is 6%, what is the value of the land (round to the nearest $10)?

#28 - Value Property Using the Land Residential Technique Answer

(Slide #186)

The Net Operating Income of the property is **$55,000**. The income attributable to the building is **$35,000.** If the land capitalization rate is **6%,** what is the value of the land (round to the nearest $10)?

Answer: IRV likes BLTs

	I	R	V
B	**$35,000**		
L	**$20,000**	**6%**	**$333,333.33**
T	**$55,000**		

Step 1: Calculate the income associated with the land ($55,000 - $35,000)

Step 2: Find the value of the land (V = I / R)

Step 3: Round to the nearest $10

$333,333.33 = $333,330

#29 - More IRV likes BLTs

You are given the following information:

Building Value = $2,500,000

Building Rate = .15

Land Rate = .10

Total Income = $395,000

Complete the rest of the grid.

	I	**R**	**V**
B		.15	$2,500,000
L		.10	
T	$395,000		

#29 - More IRV likes BLTs Answer

(Slide #187)

You are given the following information:

Building Value = $2,500,000

Building Rate = .15

Land Rate = .10

Total Income = $395,000

Complete the rest of the grid.

	I	R	V
B	**$375,000**	.15	$2,500,000
L	**$20,000**	.10	**$ 200,000**
T	$395,000		**$2,700,000**

Step 1: Calculate building income (R * V = I) (.15 * $2,500,000)

Step 2: Calculate land income (T – B = L) ($395,000 - $375,000)

Step 3: Calculate Land Value (V = I / R) ($20,000 / .10)

Step 4: Calculate Total Value (B + L = T) ($2,500,000 + $200,000)

#30 - Value Open Space Property

The subject property is a registered historical building on a two-acre site and it qualifies as open-space.

The full-cash value of comparable land nearby, which is not open space, equals $75,000 per acre.

The taxable value (RCNLD) of the subject improvements equals $63,000.

Calculate the assessed value of this property.

#30 - Value Open Space Property Answer

(Slide #200)

The subject property is a registered historical building on a two-acre site and it qualifies as open-space.

The full-cash value of comparable land nearby, which is not open space, equals $75,000 per acre.

The taxable value (RCNLD) of the subject improvements equals $63,000.

Calculate the assessed value of this property.

Answer:

Calculate the assessed value of the open-space land

$75,000 * 2 acres = $150,000 * .74 (discount factor) = $111,000 * 35% = $38,850

Calculate the assessed value of the historical improvements

$63,000 * .74 (discount factor) = $46,620 * 35% = $16,317

Add land and improvements for property value

$38,850 + $16,317 = $55,167

#31 - Value Open Space Property

You are appraising a 125-year old historical residential property with an RCN of $135,000 for the improvements and a $23,000 full-cash value for the land. The property qualifies for open-space deferment with a discount factor of .74. The assessment ratio is 35%. What is the total assessed value (round to the nearest $1)?

#31 - Value Open Space Property Answer

(Slide #201)

You are appraising a 125-year old historical residential property with an RCN of $135,000 for the improvements and a $23,000 full-cash value for the land. The property qualifies for open-space deferment with a discount factor of .74. The assessment ratio is 35%. What is the total assessed value (round to the nearest $1)?

Answer:

Calculate the depreciated value of the improvements (hint: the property is historic so the residual value or percent good is 25%)

$135,000 * .25 = $33,750

Add the land value

$33,750 + $23,000 = $56,750

Apply the open-space factor of .74

$56,750 * .74 = $41,995

Find the assessed value at a rate of 35%

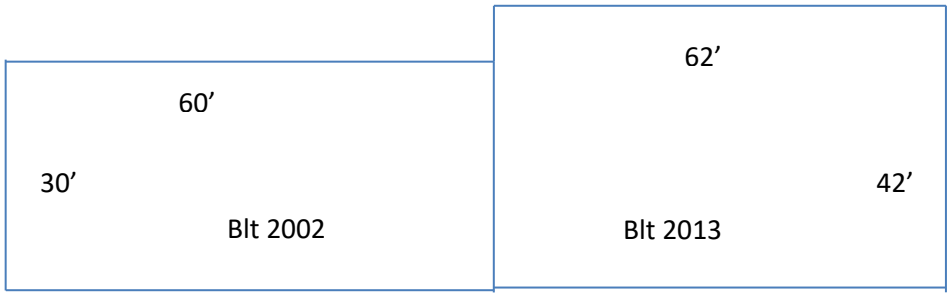
$41,995 * 35% = $14,698.25

Round to the nearest $1

$14,698.25 = $14,698

#32 – Calculating Adjusted Actual Age

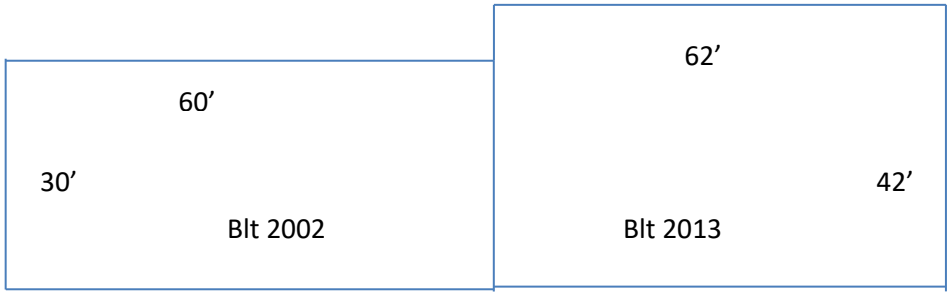
The subject property is a single-family home built in 2002 with an addition, comparable in quality, built in 2013? What is the adjusted actual age of the improvements (round to the nearest whole number)?



#32 – Calculating Adjusted Actual Age Answer

(Slide #217)

The subject property is a single-family home built in 2002 with an addition, comparable in quality, built in 2013? What is the adjusted actual age of the improvements (round to the nearest whole number)?

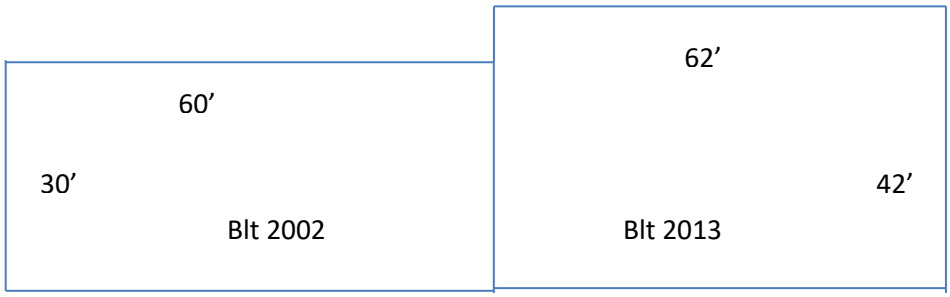


Answer:

	Size	Sq Ft	Math	Percent	Yr Blt	Math	Date
Original	**30x60**	**1800**	**1800/4404**	**41%**	**2002**	**2002*41%**	**818.256**
Addition	**42x62**	**2604**	**2604/4404**	**59%**	**2013**	**2013*59%**	**1190.248**
Total		**4404**					**2008.504 Or 2009 (rounded)**

#33 – Calculating Per Square Foot Cost

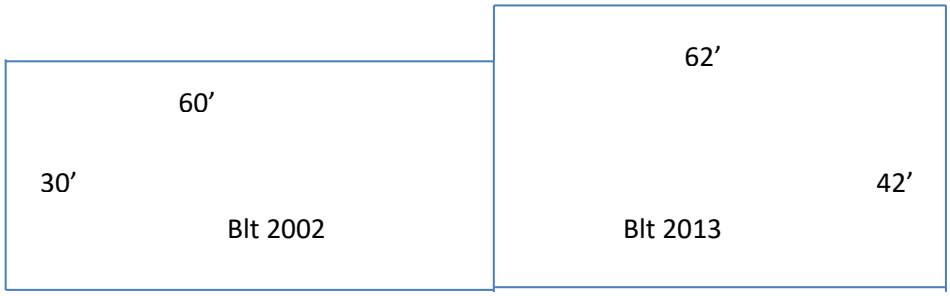
Calculate the square footage using the following drawing. What is the per square foot cost if the RCN is $172,335?



#33 – Calculating Per Square Foot Cost Answer

(Slide #218)

Calculate the square footage using the following drawing. What is the per square foot cost if the RCN is $172,335?



Answer:

(30 * 60) + (42 * 62) =

1,800 + 2,604 = 4,404 sq ft

$172,335 / 4,404 sq ft = $39.13 / sq ft

#34 – Calculate Using Per Square Foot Cost

Calculate the RCN of a good quality 2,700 sq ft house using the Marshall/Swift tables provided.

One Story	
sq ft	$ per sq ft
2,600	$ 102.00
2,800	$ 101.00
3,000	$ 99.50

One & One Half Story	
sq ft	$ per sq ft
2,600	$ 91.00
2,800	$ 89.50
3,000	$ 88.50

CCM	1.05
LCM	1.09

Two Story	
sq ft	$ per sq ft
2,600	$ 94.00
2,800	$ 92.50
3,000	$ 91.00

#34 – Calculate Using Per Square Foot Cost Answer

(Slide #219)

Calculate the RCN of a good quality 2,700 sq ft house using the Marshall/Swift tables provided.

One Story	
sq ft	$ per sq ft
2,600	$ 102.00
2,800	$ 101.00
3,000	$ 99.50

One & One Half Story	
sq ft	$ per sq ft
2,600	$ 91.00
2,800	$ 89.50
3,000	$ 88.50

Two Story	
sq ft	$ per sq ft
2,600	$ 94.00
2,800	$ 92.50
3,000	$ 91.00

CCM	1.05
LCM	1.09

Answer:

Interpolate the cost:

Step 1: Set up the grid for interpolation

	Sq Ft	Math	Percent	Cost	Math	Int. Cost
High		sq ft/total sq ft			Cost * Percent	
Low		sq ft/total sq ft			Cost * Percent	
					2700 sq ft	

Step 2: Put in the Information and do the math

	Sq Ft	Math	Percent	Cost	Math	Int. Cost
High	2800	sq ft/total sq ft 2800/5400 =	52%	89.50	Cost * Percent 89.50 * 52% =	46.41
Low	2600	sq ft/total sq ft 2600/5400 =	48%	91.00	Cost * Percent 91.00 * 48% =	43.81
	5400				2700 sq ft	90.22
					2700 * 90.22 =	243,600
					*LM * CM = *1.05 * 1.09	278,800

#35 – Calculate Using the Factored Historical Method

A single-family residence was built 15 years ago for $73,000. The cost index when it was built was 1.02. The current cost index is 1.10. What is the RCN?

#35 – Calculate Using the Factored Historical Method Answer

(Slide #220)

A single-family residence was built 15 years ago for $73,000. The cost index when it was built was 1.02. The current cost index is 1.10. What is the RCN?

Answer:

Formula: Current index / prior index = multiplier * historical cost = RCN

1.10 / 1.02 = 1.08 * $73,000 = $78,840

#36 – Calculate Age-Life Depreciation

A roof has an effective age of 7 years and a total economic life of 25 years. What is the age-life depreciation?

#36 – Calculate Age-Life Depreciation Answer

(Slide #236)

A roof has an effective age of 7 years and a total economic life of 25 years. What is the age-life depreciation?

Answer:

Formula: Age Life Depreciation = Effective Age / Total Economic Life

Age Life Depreciation = 7 / 25 or 28%

#37 – Calculate Accrued Depreciation

What is the accrued depreciation using the following:

Actual Age = 7 years

Effective Age = 11 years

Estimated Remaining Economic Life = 30 years

RCN = $175,000

#37 – Calculate Accrued Depreciation Answer

(Slide #237)

What is the accrued depreciation using the following:

Actual Age = 7 years

Effective Age = 11 years

Estimated Remaining Economic Life = 30 years

RCN = $175,000

Answer:

Step 1: Calculate Total Economic Life

Effective Age + Remaining Economic Life = Total Economic Life

11 years (EL) + 30 years (REL) = 41 years (TEL)

Step 2: Calculate Depreciation

Depreciation = Effective Age / Total Economic Life

11 (EL) / 41 (TEL) = 26.83% (Deprec)

Step 3: Calculate Accrued Depreciation

Accrued Depreciation = RCN * Depreciation

$175,000 (RCN) * 26.83% (Deprec) = $46,952.50 (Accrued Deprec)

#38 – Calculate Age Life

What is the assessed value of real property in Nevada with a 35% assessment ratio using the following:

Actual Age: 25 years

Adjusted Actual Age: 21 years

Effective Age: 17 years

RCN: $235,000

Land Value: $125,000

#38 – Calculate Age Life Answer

(Slide #238)

In Nevada, what is the assessed value of real property in Nevada with a 35% assessment ratio using the following:

Actual Age: 25 years

Adjusted Actual Age: 21 years

Effective Age: 17 years

RCN: $235,000

Land Value: $125,000

Answer:

Step 1: Calculate Accrued Depreciation – Real Property in Nevada depreciates at 1.5% per year

Accrued Depreciation = Adjusted Actual Age * 1.5% * RCN

21 * 1.5% = .315 * $235,000 = $74,025

Step 2: Calculate RCNLD

RCNLD = RCN – Depreciation

$235,000 - $74,025 = $160,975

Step 3: Calculate Total Property Value

Total Property Value = RCNLD + Land Value

$160,975 + $125,000 = $285,975

Step 4: Calculate Assessed Value

Assessed Value = Total Property Value * 35%

$285,975 * 35% = $100,091.25

#39 – Calculate Accrued Depreciation

Comparable properties sell for $121,500. The subject property has a land value of $12,000 and the RCN for its improvements is $123,000. What is the indicated accrued depreciation?

#39 – Calculate Accrued Depreciation Answer

(Slide #239)

Comparable properties sell for $121,500. The subject property has a land value of $12,000 and the RCN for its improvements is $123,000. What is the indicated accrued depreciation?

Answer:

Step 1: Calculate Subject Property Value

Value = Land + Improvements

$12,000 + $123,000 = $135,000

Step 2: Calculate Indicated Accrued Depreciation (Subject – Comparable Sales)

$135,000 - $121,500 = $13,500

#40 – Calculate Time Adjustment for Comparable Sales

A property sold 6 months ago for $250,000 and sold again recently for $265,000. Calculate the monthly adjustment for time.

#40 – Calculate Time Adjustment for Comparable Sales Answer

(Slide #248)

A property sold 6 months ago for $250,000 and sold again recently for $265,000. Calculate the monthly adjustment for time.

Answer:

Formula: (Now – Then) / Then = % / # of months elapsed = monthly time adjustment

($265,000 - $250,000) / $250,000 = .06 / 6 = .01 or 1% monthly time adjustment

#41 – Identify Adjustment Factor and Comparability to Subject

Using the data below, identify the sale with the lowest composite adjustment factor and the sale that is most comparable to the subject.

Sale	Time	Location	Size	Condition	Composite Adj Factor	Comparability
1	6	-2	1	4		
2	5	-2	5	-6		
3	4	1	3	4		
4	3	3	4	-6		
5	2	0	2	2		

#41 – Identify Adjustment Factor and Comparability to Subject Answer

(Slide # 250)

Using the data below, identify the sale with the lowest composite adjustment factor and the sale that is most comparable to the subject.

Sale	Time	Location	Size	Condition	Composite Adj Factor	Comparability
1	6	-2	1	4	9	13
2	5	-2	5	-6	2	18
3	4	1	3	4	12	12
4	3	3	4	-6	4	16
5	2	0	2	2	6	6

Answer:

Step 1: Calculate the Composite Adjustment Factor

Formula: Sum of Adjustments (Time + Location + Size + Condition)

Step 2: Calculate the Comparability to Subject

Formula: Add all adjustments as positive numbers

Lowest Composite Adjustment Factor = Sale #2

Most Comparable to Subject Property = Sale #5

#42 – Calculate Market Rate Adjustment

What is the indicated monthly adjustment for market conditions for the following parcels?

Sale 1 – 8 months ago - $125,000
Sale 2 – 1 month ago - $142,000
Sale 3 – 3 months ago - $137,000
Sale 4 – current - $151,000

	Sale 1	**Sale 2**	**Sale 3**	**Sale 4**
Months Elapsed	8	1	3	0
Sale Price	$125,000	$142,000	$137,000	$151,000
Price Change				
% Change				
% Change / Month				
Average				

#42 – Calculate Market Rate Adjustment Answer

(Slide #251)

What is the indicated monthly adjustment for market conditions for the following parcels?

Sale 1 – 8 months ago - $125,000
Sale 2 – 1 month ago - $142,000
Sale 3 – 3 months ago - $137,000
Sale 4 – current - $151,000

	Sale 1	Sale 2	Sale 3	Sale 4
Months Elapsed	8	1	3	0
Sale Price	$125,000	$142,000	$137,000	$151,000
Price Change	**$151,000 - $125,000 = $26,000**	**$151,000 - $142,000 = $9,000**	**$151,000 - $137,000 = $14,000**	**$151,000 - $151,000 = $0**
% Change	**$26,000 / $125000 = .20800**	**$9,000 / $142,000 = .06338**	**$14,000 / $137,000 = .10219**	
% Change / Month	**.208 / 8 = .02600**	**.06338 / 1 = .06338**	**.10219 / 3 = .03406**	
Average	**(.02600 + .06338 + .03406) / 3 = .04115**			

Answer:

Step 1: Calculate the price change

Formula: Price Change = Current Sale Price – Sale Price

Step 2: Calculate the % Change

Formula: % Change = Price Change / Sale Price

Step 3: Calculate the % Change Per Month

Formula: % Change Per Month = % Change / Months Elapsed

Step 4: Calculate the Average % Per Month

Formula: Average % Per Month = (Sale 1 % Change/Month + Sale 2 % Change/Month + Sale 3 % Change/Month) / 3

#43 – Calculate Rate Using Income Approach

Commercial property has sold for $875,000 and has a PGI of $23,500; vacancy & collection loss are 7%; operating expenses including reserves is 35%. What is the overall rate?

#43 – Calculate Rate Using Income Approach Answer

(Slide #258)

Commercial property has sold for $875,000 and has a PGI of $23,500; vacancy & collection loss are 7%; operating expenses including reserves is 35%. What is the overall rate?

Answer:

Formula:

PGI
- Vac & Coll
EGI
- Op Expenses
NOI

Overall Rate = NOI / Sales Price (R = I / V)

	PGI	**$23,500**
-	**Vac & Coll**	**$23,500 * 7% = $1,645.00**
	EGI	**$21,855**
-	**Op Expenses**	**$21,855 * 35% = 7,649.25**
	NOI	**$14,205.75**

$14,205.75 / $875,000 = .0162 or 1.62%

#44 – Calculate NOI Using Income Approach

Calculate the NOI for an office complex with the following information:

PGI = $1,200,000
Vacancy & Collection Loss = 2.5%
Expense Ratio = 41%

#44 – Calculate NOI Using Income Approach Answer

(Slide #259)

Calculate the NOI for an office complex with the following information:

PGI = $1,200,000
Vacancy & Collection Loss = 2.5%
Expense Ratio = 41%

Answer:

Formula:

PGI
- Vac & Coll
EGI
- Op Expenses
NOI

	PGI	**$1,200,000**
-	**Vac & Coll**	**$1,200,000 * 2.5% = $30,000**
	EGI	**$1,170,000**
-	**Op Expenses**	**$1,170,000 * 41% = 479,700**
	NOI	**$690,300**

#45 - Calculate Gross Income Multiplier

Assume the gross income multiplier derived from comparable properties is 6.25 and the estimated potential gross income for the subject property is $80,000.

What is the indicated market value?

#45 - Valuing Property Using Gross Income Multiplier Answer

(Slide #272)

Assume the gross income multiplier derived from comparable properties is 6.25 and the estimated potential gross income for the subject property is $80,000.

What is the indicated market value?

Answer: **Formula: V = GIM * PGI**

V = 6.25 * $80,000

V = $500,000

#46 – Calculate Rate Using Band of Investment

Typical properties are financed with 55% debt and a mortgage constant of 10.5%. The equity dividend rate is 11%. What is the overall rate?

#46 – Calculate Rate Using Band of Investment Answer

(Slide #266)

Typical properties are financed with **55%** debt and a mortgage constant of **10.5%**. The equity dividend rate is 11%. What is the overall rate?

Answer:

	% of Investment	Rate	Contribution
Debt	**55%**	**10.5%**	**.55 * .105 = .05775**
Equity	**100% - 55% = 45%**	**11%**	**.45 * .11 = .0495**
Totals	**100%**		**.05775 + .0495 = .10725 or 10.725%**

#47 – Calculate Discount Rate

A commercial property sold for $750,000 and has an EGI of $130,000. Operating expenses including reserves are $85,000. What is the overall rate?

#47 – Calculate Discount Rate Answer

(Slide #267)

A commercial property sold for $750,000 and has an EGI of $130,000. Operating expenses including reserves are $85,000. What is the overall rate?

Answer:

Use IRV – Overall Rate = NOI / Sales Price (R = I / V)

Step 1: Calculate NOI

PGI
- Vac & Coll
EGI
- Op Expenses
NOI

EGI – Operating Expenses = NOI

$130,000 - $85,000 = $45,000

Step 2: Calculate Rate

$45,000 / $750,000 = .06 or 6%

#48 – Calculate Recapture Rate

A building originally had a life of 50 years. It is now 15 years old. What is the recapture rate?

#48 – Calculate Recapture Rate Answer

(Slide #268)

A building originally had a life of 50 years. It is now 15 years old. What is the recapture rate?

Answer:

Formula: **Remaining Economic Life = Original Life – Remaining Life**
Recpature Rate = 1 / Remaining Economic Life
50 – 15 = 35
1 / 35 = .0285 or 2.85%

#49 - Calculate Tax Rate

If the Effective Tax Rate is 5% and the Assessment Level is 50%, what is the Tax Rate?

#49 - Calculate Tax Rate Answer

(Slide #269)

If the Effective Tax Rate is 5% and the Assessment Level is 50%, what is the Tax Rate?

Answer: **T = E / A**

T = 5% (or .05) / 50% (or .5)

T = .05 / .5

T = .1 or 10%

#50 - Calculate the Gross Rent Multiplier (GRM)

Calculate the Gross Rent Multiplier (GRM) for each of these sales:

	Sale Price	**Monthly Rent**		**GRM**
Sale 1	$175,000	$19,400		
Sale 2	$260,000	$22,000		
Sale 3	$220,000	$21,980		

#50 - Calculate the Gross Rent Multiplier (GRM)

(Slide #273)

Calculate the Gross Rent Multiplier (GRM) for each of these sales:

	Sale Price	**Annual Rent**		**GRM**
Sale 1	$175,000	$19,400	**$175,000 / $19,400 =**	**9.0206**
Sale 2	$260,000	$22,000	**$260,000 / $22,000 =**	**11.8182**
Sale 3	$220,000	$21,980	**$220,000 / $21,980 =**	**10.0091**

Step 1: Calculate the GRM (Formula: GRM = Sale Price / Annual Rent)

#51 - Calculate the Gross Income Multiplier

Calculate the Price Per Unit per Month for the Subject Property:

	Subject	**Comp 1**	**Comp 2**	**Comp 3**
Rental Income Per Unit Per Month		$1,200	$1,250	$1,150
# of Units	24	16	18	10
Sale Price		$1,350,000	$1,475,000	$1,250,000
Price Per Unit		$75,000	$82,000	$65,000
GIM				
Gross Income	$320,000			

#51 - Calculate the Gross Income Multiplier Answer

(Slide #274)

Calculate the Price Per Unit per Month for the Subject Property:

	Subject	Comp 1	Comp 2	Comp 3
Rental Income Per Unit Per Month	$320,000 / 12 / 24 = $1,111.11	$1,200	$1,250	$1,150
# of Units	24	16	18	10
Sale Price	$320,000 * 6.7934 = $2,173,888.00	$1,350,000	$1,475,000	$1,250,000
Price Per Unit	$2,173,888 / 24 = $90,578.67	$75,000	$82,000	$65,000
GIM	(5.859375 + 5.462962963 + 9.057971014) / 3 = 6.793436	$1,350,000 / $230,400 = 5.859375	$1,475,000 / $270,000 = 5.462963	$1,250,000 / $138,000 = 9.057971
round to 4 places	6.7934	5.8594	5.4630	9.0580
Gross Income	$320,000	$1,200 * 16 * 12 mos = $230,400	$1,250 * 18 * 12 mos = $270,000	$1, 150 * 10 * 12 mos = $138,000

Step 1: Calculate the Gross Income

Formula: Gross Income = Monthly Income * # of Units * 12 Months

Step 2: Calculate the GIM for the Comps

Formula: Sales Price / Income

Step 3: Calculate the GIM of the Busject

Formula: Average Comp Sales GIM

Step 4: Calculate the Rental Income Per Month of the Subject

Formula: Gross Income / 12 / # of units

Step 5: Calculate the Sale Price of the Subject

Formula: Gross Income * Gim

Step 6: Calculate the Price Per Unit of the Subject

Formula: Sale Price / # of Units

Rules for Rounding Whole Numbers

Determine what your rounding digit is and look to the right side of it.

- If the digit is 0, 1, 2, 3, or 4, do not change the rounding digit. All digits that are on the right-hand side of the requested rounding digit will become 0.
- If the digit is 5, 6, 7, 8, or 9, your rounding digit rounds up by one number. All digits that are on the right-hand side of the requested rounding digit will become 0.

Rounding Rules for Decimal Numbers

Determine what your rounding digit is and look to the right side of it.

- If that digit is 4, 3, 2, or 1, simply drop all digits to the right of it.
- If that digit is 5, 6, 7, 8, or 9 add one to the rounding digit and drop all digits to the right of it.

Examples of How to Round Numbers

765.3682 becomes:

- 1,000 when asked to round to the nearest 1,000
- 800 when asked to round to the nearest 100
- 770 when asked to round to the nearest 10
- 765 when asked to round to the nearest one (1)
- 765.4 when asked to round to the nearest 10th
- 765.37 when asked to round to the nearest 100th
- 765.368 when asked to round to the nearest (1,000th)