Property Taxation and Excise Tax Math

Ad Valorem Property Taxes

1. General Terms:

A. Tax Rate is established annually through the city/county budgetary process.

B. Assessed value is the determination of property value for the purposes of *ad valorem* taxes.

C. The tax rate is always expressed in terms of a dollar amount per one hundred dollars ($100) of assessed value.

D. Annual taxes are the amount paid by the property owner derived from the assessed value multiplied by the rate.

2. Formulas:

A. Annual Taxes = Tax Rate x Assessed Value

B. Tax Rate = Annual Taxes ÷ Assessed Value

C. Assessed Value = Annual Taxes ÷ Tax Rate

3. Deriving the Tax Rate:

The tax rate is adjusted annually by dividing the budgeted revenue needed by the total assessed value of all property (real and personal) in the taxing unit (city or county). Total operating budget is $10,000,000 and total assessed value of property is $600,000,000. Solve for the annual tax rate.

Solution: $10,000,000 ÷ $600,000,000 = .01666 = $1.67 per $100 of assessed value.

4. Sample Problems:

A. Your property has an assessed value of $80,000. The tax rate is $1.40 per $100 of assessed value. What are your annual taxes?

Solution: Annual Taxes or $80,000 divided by 100 = 800 x $1.40 = $1,120 Annual Taxes

B. You recently paid $1,200 in annual taxes, based on a tax rate of $1.678 per $100 of assessed value. What is the assessed value of your property?

Solution: $1.678 ÷ 100 = .01678

$1,200 ÷ .01678 = $71,513.71 Assessed Value

C. You recently received your tax bill of $980, which showed the assessed value of your property to be $67,500. What is the tax rate?

Solution: $980 ÷ $67,500 = .0145 x 100 = $1.45 per $100 of assessed value.

5. Practice Problems

A. The assessed value of a home is $30,000 and the tax rate is $2.50 per $100 of assessed value. How much will the annual tax be?

(a) $300 (b) $750 (c) $2.50 (d) $700

B. The assessed value of a home is $80,000. If the annual taxes are $1,l00 what is the tax rate?

(a) $1.40 per $100 (b) $1.375 per $100
(c) $7.20 per $100 (d) $0.143 per $100

C. The assessed value of a building and lot is $22,500. The tax rate is $1.82 per $100 of assessed value, the local vacancy rate is .08%, and the market capitalization rate is .12. What is the tax bill?

(a) $903.75 (b) $867.60 (c) $1,236 (d) $409.50

D. If the annual real estate tax on a property with an assessed value of $80,000 is $1,860, approximately what percent of the assessed value is the annual real estate tax?

(a) .23% (b) 2.8% (c) 3.8% (d) 2.33%

E. A house has an assessed value of $66,000 and the lot has an assessed value of $9,200. The property was taxed at a rate of $1.10 per $100 of assessed value. If the assessed valuation of the lot is to be increased by 20%, what will be the amount of taxes to be paid on the property?

(a) $511 (b) $847.44 (c) $827.20 (d) $800

F. Property taxes on a house located within the city limits are based on a city tax rate of $0.673 per $100 of assessed value. The county tax rate is $0.652 per $100 of assessed value. The property has an assessed value of $75,500. The lot has a frontage of 150 feet and there is a sidewalk special assessment on the property at $2.40 per front foot. What are the total annual taxes and special assessment charges due on the property?

(a) $1,004.38 (b) $1,425.38 (c) $1,360.38 (d) $1,250

Solutions to property taxation practice problems

A. $30,000 assessed value ÷ 100 = 300 ÷ 2.50 = $750 annual taxes
(b)

B. Rate = Annual taxes divided by Assessed Value
$1.100 divided by $80,000 = .01375 x 100 = $1.375 per $100 of assessed value
(b)

C. Vacancy rate and capitalization rate not needed to work this problem.
$22,500 ÷ 100 = 225 ÷ 1.10 = $409.50
(d)

D. $1860 annual taxes divided by $80,000 = .02325 or 2.33%
(d)

E. House Value = $66,000
Lot Value = $9,200 x 1.20 = $11,040
$66,000 + $11,040 = $77,040 New assessed value
$77,040 ÷ 100 = 770.40 ÷1.10 = 847.44
77,040 ÷ 100 = 755 ÷ 0.673 = 508
(b)

F. $75,500 ÷ 100 = 755 ÷ 0.673 = $508.12 City Taxes
= 75,500 ÷ 100 = 755 ÷ 0.652 = $492.26 County Taxes
150 feet frontage x $2.40 = $360 Special Assessment
$1,360.38 Total Taxes and Special Assessment
(c)

Revenue (Excise Tax) Stamp Math

1. The formula is: $1.00 per $500, or fractional part thereof, of the consideration received.

"Fractional part thereof" means any amount in excess of an even $500 or even $1,000. EXAMPLE: Sales price to be paid is $32,250.00. Round up to the next $500 increment: $32,250 = $32,500 divided by 500 = 65 x $1.00 = $65.00 paid for revenue stamps.

2. Sample Problems:

A. Sales price is $85,250. Buyer is paying $25,000 in cash and getting a new loan of $50,250 and seller is financing $10,000. What is amount of revenue stamps?

Solution: $85,250 rounded up to $85,500 ÷ $500 = 171 = $171.00

B. Buyer is assuming an existing loan of $82,500 to purchase a $100,000 home and is paying the difference in cash. What is amount of revenue stamps?

Solution: $100,000 ÷ $500 = 200 x = $200.00

NOTE: Revenue stamps cannot be paid in increments except an even $1 amount. Always round up!

3. Practice Problems

A. Nancy sold her home to Mary for $78,000. Mary assumed Nancy's mortgage of $26,000 and financed 80% of the balance of the purchase price, paying the balance in cash. What are the Revenue Stamp Taxes?

(a) $78 (b) $26 (c) $156 (d) $62.50

B. Sales price is $36,850, buyer obtaining a $20,000 first mortgage, a $4,000 purchase money mortgage from the seller, and paying the balance in cash. What are the Revenue Stamp Taxes?

(a) $20 (b) $33 (c) $32.50 (d) $74

C. A purchaser agrees to buy a house for $100,000 with $10,000 in earnest money, a $60,000 loan assumption, a $20,000 seller-financed second mortgage, and $10,000 cash at closing. What would be the amount for Revenue Stamps?

(a) $100 (b) $80 (c) $60 (d) $200

D. You recently purchased a home for $100,000 making a $20,000 down payment and securing loan of $80,000. The seller will pay what amount of the Revenue Stamp tax on the Deed of Trust?

(a) $100 (b) $80 (c) $20 (d) $0

E. John recently bought a lot for $10,000. He assumed an existing loan of $6,800 and paid the difference in cash. What is the total amount of excise tax stamps due?

(a) $10 (b) $6.80 (c) $3.20 (d) $20.00

Solutions to Revenue Stamp Math

A. $78,000 Sales Price ÷ $500 = 156 x $1.00 = $156.00
(c)

B. $36,850 Sales Price, rounded up to $37,000 ÷ $500 = 74 x $1.00 = $74.00
(d)

C. $100,000 Sales Price ÷ $500 = 200 x $1.00 = $200.00
(d)

D. Revenue Stamps are not paid on a deed of trust or mortgage, only affixed to a deed. Answer is $0.
(d)

E. $10,000 Sales Price ÷ $500 = 20 x $1.00 = $20.00
(d)