

# **MATH PRACTICE EXAM 1**

Name:\_\_\_\_



REAL ESTATE SCHOOL

- All calculations utilize the 30 Day Month/360 Day Year Method
- All costs per period have been rounded to 2 decimal places (\$3.66 per day) for each time period (Day, Month etc)
- You will need to download a copy of the blank Closing Worksheet to complete this test
- **1**. A homeowner owes \$131,624.33 on his mortgage loan. The PITI payment is \$1,208.33 of which \$170 is allocated to T&I. Assuming his interest rate is 7 1/2% what will be the outstanding loan balance after the next monthly payment?
  - A. \$130,585.99
  - B. \$131,238.65
  - C. \$131,407.57
  - D. \$131,408.65
- **2.** A homebuyer is applying for a mortgage loan. His annual gross income is \$54,000 and he has total monthly debts of \$725 of which \$350 is for a car payment that will be paid off in five months. If the lender utilizes the 28%/36% rule, what would be the maximum housing expenses this borrower would qualify for per month?
  - A. \$895
  - B. \$1,245
  - C. \$1,260
  - D. \$1,620
- **3**. Ronald wants to purchase a home and is applying for a mortgage loan. Assume that his gross income is \$3,200 per month, housing expenses to be \$875 per month and his recurring obligations are \$300 per month. Which of the following expenses to income ratio would Ronald qualify under?
- I. Housing expenses not to exceed 28% of monthly gross
- II. Total monthly debts not to exceed 36% of monthly gross
  - A. I only
  - B. II only
  - C. Both I and II
  - D. Neither I nor II

<b>4</b> . Bob purchased his home five years ago for \$132,500 and paid \$3,000 in closing costs and \$900 in discount points the day he bought the home. Since that time he has added on a sunroom for \$18,000, installed a new roof for \$4,000 and spent an additional \$2,800 painting the exterior of the home. He has also spent \$150 to replace a burned out hot water heater element. He now sells the house for \$210,000 and pays the broker a \$12,600 commission. What is the total amount of Bob's capital gains?	3
A. \$40,050 B. \$39,900 C. \$39,000 D. \$36,200	
<b>5</b> . Donald has purchased a tract of land containing 82.63 acres and plans to develop it into individual lots averaging 85' x 145'. Assuming that he must set aside 10% of the land for streets and sidewalks, how many whole lots can he develop from this tract?	1
A. 263 B. 292 C. 236 D. 262	
<b>6.</b> Michael has recently contracted to purchase a home for \$185,500 and applied for a 90% LTV mortgage at 6.75% interest If he closes on this loan on June 11th, how would the entry for prepaid interim interest appear on the closing statement?	
A. \$626.00 Debit - Buyer B. \$695.63 Debit - Buyer C. \$594.70 Debit - Buyer D. \$660.82 Debit - Buyer	
7. Wendy wants to sell her home and net \$28,000 in order to purchase her new home. She will incur expenses of \$2,500 for miscellaneous costs, loan payoff of \$121,750, and has agreed to pay the agent a 6% commission. How much must she sell	

the home for in order to meet her goal? (Round to whole dollars)

\$161,385

\$161,968

\$159,308

\$158,735

Α.

B.

C.

D.

8. An appraiser has been asked to appraise a house containing 1,850 sq. ft., 1.5 baths and a deck. Comparable #1 has
1,775 sq. ft, 2 baths, a deck and sold 2 months ago for \$175,000. Comparable #2 has 1,900 sq. ft., 1 bath, no deck and sold
3 months ago for \$180,000. Comparable #3 contains 1,800 sq. ft, 2.5 baths, a deck and sold 4 months ago for \$178,000.
Assuming construction costs to be \$80 per sq.ft.; 1/2 bath to be \$1,500; full bath \$2,500; deck \$1,200; and appreciation rate
to be 6% per year, what would be the range of value for the subject property? (Round final answer to the nearest \$100)

- A. \$181,800 \$183,100
- B. \$181,400 \$183,100
- C. \$180,200 \$184,300
- D. \$178,400 \$183,100
- **9**. The property management agreement calls for the manager to be paid 7% commission for all rents collected at a 10-unit apartment building. Each unit rents for \$750 per month. Assuming 1 unit was vacant, 2 units were rented for 21 days and the remaining were fully leased for the month how, how much did the property manager earn?
  - A. \$525.00
  - B. \$493.50
  - C. \$404.25
  - D. \$441.00
- **10**. A tenant has leased a rental space by utilizing a percentage of gross sales lease. His lease stipulates a minimum rent payment of \$1,400 per month plus 4.5% of gross sales exceeding \$500,000 per year. What would the gross annual sales be if he paid \$22,425 in rent for the year?
  - A. \$125,000
  - B. \$498.933
  - C. \$531,000
  - D. \$625,000
- **11**. Adam is appraising a home by utilizing the sales comparison approach. He has verified that a comparable residence has sold for \$164,500 and estimates that prices for similar properties have increased 2% since the date of sale of the comparable property. After comparing features of the comparable and subject properties, he made the following adjustments for three additional factors: 1) Size of house: Subject better by \$2,000; 2) Location: Comparable better by \$1,400; 3) Condition: Subject better by \$1,000. What is the indicated value of the subject property?
  - A. \$172,190
  - B. \$169,390
  - C. \$166,190
  - D. \$166,100

	ecently sold his house for \$253,330, which is 54% more than he had originally paid. e pay for the house?
A.	\$116,532
B.	\$136,788
C.	\$164,500
D.	\$199,330
for 7% interest of	ently purchased a home for \$235,000 and has obtained a mortgage for \$211,500. Terms of the mortgage call on the thirty year loan with monthly PITI of \$1,602.11 of which \$195 is allocated to taxes and insurance. What esent the total amount of interest that will be paid over the life of this mortgage loan?
A.	\$295,059.60
B.	\$365,259.60
C.	\$444,150.00
D.	\$506,559.60

**14**. A property has just been sold for \$192,000 in which the appraised value is \$190,000. The lender agrees to make a 90% L/V mortgage at 6 3/8% with one point for loan origination. Assuming the investor demands a 7 1/4% yield, what would be

**15**. Ralph has agreed to assume a mortgage payoff of \$74,350 at 7% interest. The monthly P&I payment is \$615.40 and closing is set for April 19th. How will the interest proration appear on the closing statement if the parties use the 30 day

the total amount collected for all types of points at the closing?

\$159.06 Debit-Seller, Credit-Buyer \$159.06 Debit-Buyer, Credit-Seller

\$274.74 Debit-Seller, Credit- Buyer

\$389.75 Debit-Seller, Credit-Buyer

\$15,360

\$11,970

\$12,096

\$13,680

Α.

B.

C.

D.

month/360 day year method?

Α.

B.

C. D. **16**. Pam has agreed to sell her house for \$176,500 with the purchaser to obtain a 90% L/V mortgage at 8% interest. Closing is set for April 18th. The lender will collect at closing the following: applicable pre-paid interim interest, 1% loan origination fee, and 2 discount points. The loan payoff is \$132,325 and is paid current. The property taxes are \$1,080 for the year and are to be pro-rated as applicable. The responsible party has agreed to pay \$75 for the deed preparation, appropriate amount for revenue stamps, and a 6% commission. The purchaser has paid a \$2,500 earnest money deposit at the time of the offer and will also incur \$1,650 in miscellaneous costs in order to close. How much money will the buyer pay in order to close on this purchase? (Round answer to whole dollar amount.)

- A. \$21,242
- B. \$21,700
- C. \$22,348
- D. \$26,700

Use the following information to complete the Closing Worksheet, and then answer questions 17-20 based on your completed Closing Worksheet. When performing prorating calculations, you should use the 360-day year and treat each month as if it has 30 days. For items prorated between buyer and seller, you should consider the SELLER responsible for the day of closing. When performing interim calculations you should NOT round off your figures. However, entries on any line of the Closing Worksheet should be rounded to the nearest cent. **NO INCORRECT ANSWER CAN BE OBTAINED SOLELY** 

# AS A RESULT OF AN ERROR IN ROUNDING OFF.

#### Closing Date: October 24

- Sales Price \$235.000
- Earnest Money Deposit \$5,000
- Financing \$188,000 New Conventional 30 year mortgage loan at 7.5% interest; 1% loan origination fee and 1 discount point. There is also to be a \$10,000 purchase money second mortgage from the seller to the purchaser.
- Pre-Paid Interim Interest to be collected on the new 1st mortgage. Due to terms of the 2nd mortgage no pre-paid interest to be collected on this mortgage.
- Private Mortgage Insurance for first year due at closing \$752.00
- Commission 6%
- Seller's Loan Payoff \$126,400 as of the October 1 payment. Accrued interest on this 8% mortgage to be collected through closing.(Interest to be entered in section 500.)
- Homeowner's Insurance Premium \$540 to be paid at closing
- Real Property Taxes: Annual property taxes are \$2,160 and have not yet been paid. Attorney will collect each party's respective share at closing in order to pay off taxes. (Taxes to be entered on "Part A".)
- Escrow Account Deposits Required by Lender Four (4) months Real Property Taxes, Two (2) months Homeowner's insurance premiums, and two (2) months Private Mortgage Insurance premiums based on annual renewal premium of \$658.00.
- Appraisal: \$300 paid at time of Loan Application
- Credit Report: \$50 paid at time of Loan Application
- Attorney's Fee: \$550
- Deed Preparation: \$75
- Title Insurance \$470
- Recording Fees: Deed \$20, New Mortgage \$20, Loan Cancellation \$15
- Pest Inspection \$75
- Survey \$250
- Revenue Stamps Use State Rate

	ine of "Part A" of the Closing Worksheet should indicate that the total settlement charges to be paid from S funds at closing, rounded to the nearest whole dollar, are
A B. C. D.	\$7,556 \$8,027 \$8,042 \$8,102
	ne of "Part A" of the Closing Worksheet should indicate that the total settlement charges to be paid from ids at closing, rounded to the nearest whole dollar, are
A. B. C. D.	\$16,349 \$16,409 \$16,424 \$16,894
	rettlement in "Part B" of the Closing Worksheet should indicate that the CASH DUE FROM BORROWER at ded to the nearest whole dollar, is
A. B. C. D.	\$40,102 \$40,042 \$40,027 \$39,557
	ettlement in "Part B" of the Closing Worksheet should indicate that the CASH TO SELLER at settlement, earest whole dollar, is
A. B. C. D.	\$81,577 \$81,517 \$81,502 \$81,032

#### **ANSWERS**

<b>1</b> . D	<b>6</b> . A	<b>11</b> . B	<b>16</b> . B
<b>2</b> . B	<b>7</b> . B	<b>12</b> . C	<b>17</b> . B
<b>3</b> . A	<b>8</b> . B	<b>13</b> . A	<b>18</b> . C
<b>4</b> . B	<b>9</b> . D	<b>14</b> . D	<b>19</b> . C
<b>5</b> . D	<b>10</b> . D	<b>15</b> . C	<b>20</b> . C

#### **SOLUTIONS**

- 1. \$1,208.33 170 = \$1,038.33 P&I/Month \$131,624.33 x .075 = \$9,871.83 Int/year \$9, 871.83 ÷ 12 = \$822.65 Int due 1st month \$1,038.33 - 822.65 = \$215.68 Prin. 1st Month \$131,624.33 - 215.68 = \$131,408.65 balance after next pay
- 2.  $$54,000 \div 12 = $4,500 \text{ Int/Month}$ \$725 - 350 = \$375 Monthly Debt that "count" $$4,500 \times 36\% = $1,620 \text{ Max total Monthly Debt}$ \$1,620 - 375 = \$1,245.00 Max housing expenses
- 3. \$3,200 x 28% = \$896 Maximum housing expenses \$3,200 x 36% = \$1,152 Maximum total monthly debt Qualifies under 28% rule - \$875 less than \$896 Not qualified under 36% rule - \$875 + 300 = \$1,175, exceeds \$1,152
- **4**. \$132,500 + 3,000 + 18,000 + 4,000 = \$157,500 Adjusted Base \$210,000 12,600 = \$197,400 Amount realized \$197,400 157,500 = \$39,900 Capital Gains NOTE: \$900 in discount points are deductible in the year paid. \$2,800 in painting represents maintenance and is not considered. \$150 for the hot water heater element is a repair and is not considered.
- **5**. 43,560 x 82.63 = 3,599,362.8 Total Square Feet 3,599,362.8 x .10 = 359,936.28 Square Feet for streets and sidewalks 3,599,362.8 359,936.28 = 3,239,426.6 Square Feet for lots 85 x 145 = 12,325 Square Foot Per Lot 3,239,426.6 ÷ 12,325= 262.83 # of Lots \* Only 262 whole Lots Can be Obtained

**6**. \$185,500 x .90 = \$166,950 Loan Amount \$166,950 x .0675 = \$11,269.13 Interest/year \$11,269.13  $\div$  360 = \$31.30 Interest per day June 11 - 30 = 20 Days \$31.30 x 20 = \$626.00 Debit - Buyer Note: Buyer pays pre-paid interim interest for June 11th

7. \$28,000 + \$2,500 + \$121,750 = \$152,250 (94% of Needed Sales Price) \$152,250 \div .94 = \$161,968.08 Minimum Sales Price Needed

8.	Subject	<b>#</b> 1 \$175,000	<b>#</b> 2 \$180,000	#3 \$178,000
	1850 sf	1,775 + 6,000	1,900 - 4,000	1,800 +4,000
	1.5 Baths	2 Baths - 1,000	1 Bath +1,500	2.5 Baths - 2,500
	Deck	Deck - 0 -	No Deck +1,200	Deck -0-
		2 mo. +1,750	3 mo. +2,700	4 mo. +3,560
	Indicated value	\$181,750	\$181,400	\$183,060
	Rounded figures	\$181,800	\$181,400	\$183,100

9.  $$750 \div 30 = $25$  Rent per day  $$25 \times 21 = $525$  Rent for 21 days  $$525 \times 2 = $1,050$  Total Rent -2 units  $$750 \times 7 = $5,250$  Total Rent -7 units \$1,050 + 5,250 = \$6,300 Total Rent Collected  $$6,300 \times .07 = $441$  Total Commission Due

**10**.  $$1,400 \times 12 = $16,800 \text{ minimum rent/year}$ \$22,425 - \$16,800 = \$5,625 rent exceeding minimum $$5,625 \div .045 = $125,000 \text{ sales exceeding }$500,000$ \$500,000 + \$125,000 = \$625,000 Total sales for year

**11**. \$164,500 x .02 = \$3290 Amount of Increase \$164,500 + \$3,290 = \$167,790 Sales Price & Increase \$167,790 + \$2,000 - \$1,400 + \$1,000 = \$169,390 Indicated Value

**12**.  $$253,330 \div 1.54 = $164,500$  originally paid

**13**. \$1,602.11 = \$195 = \$1,407.11 P&I/Month \$1,407.11 x 360 = \$506,559.60 Total P&I paid \$506,559.60 - \$211,500 = \$295,059.60 Total Int. Paid **14**. \$190,000 x .90 = \$171,000 Loan Amount \$171,000 x .01 = \$1,710 Cost of L.O.F. 7.25% (7 2/8) - 6 3/8 = 7/8 or 7 points \$171,000 x .07 = \$11,970 Cost of Discount Points \$1,710 + \$11,970 = \$13,680 Total Cost of All Points

**15**. \$74,350 x .07 = \$5,204.50 Interest/Year \$5,204.50 ÷ 360 = \$14.46 Interest/Year \$14.46 x 19= \$274.74 Debit-Seller/Credit-Buyer

<b>16</b> .	Item	Debt	Credit	
	Sales Price	\$176,500		_
	Loan Amount		\$158,850	_
	Interim Interest	\$ 458.90		
	Origination Fee	\$ 1,588.50		
	Discount Points	\$3,177.00		
	Property Taxes		\$ 324	
	Earnest Money		\$ 2,500	_
	Miscellaneous Fees	\$ 1,650.00		_
		\$183,374.40	\$161,674.00	_
	Needed to Close	\$ 21,700.40		_
		\$183,374.40	\$183,374.40	_

# Closing Exercise Worksheet - Part A

Settlement Charges	Paid from Borrower's Funds at Settlement Charges to Borrower	Paid from Seller's Funds at Settlement Charges to Seller
Real Estate Broker Fees		Billion and delivery and an analysis of the control
Commission paid at settlement		\$14,100.00
Items Payable in Connection with Loan		
Loan origination fee/charge  Loan discount points for specific interest rate chosen	\$1,880.00 \$1,880.00	
Appraisal fee		-
Credit report fee		
Items Required by Lender to be Paid in Advance		
Daily interest charges from 10/24 to 10/30 @ \$39.17per day	\$274.19	
Mortgage insurance premium for months	\$752.00	
Homeowner's insurance premium for years	\$540.00	
Reserves Deposited with Lender (for Escrow Account)		
Homeowner's insurance 2 months @ \$ 45 per month	\$90.00	
Mortgage insurance 2 months @ \$ 54.83 per month	\$109.66	
Property taxes4_months @ \$180_per month	\$720.00	
Title Charges		
Closing attorney's fee	\$550.00	
Title insurance premium (lender's and/or owner's policy)	\$470.00	
Deed preparation fee	,	\$75.00
Government Recording and Transfer Charges		
Recording fees: Deed \$ 20 Mortgage \$ 20	\$40.00	
Excise tax (state tax stamps)		\$470.00
Release \$15		\$15.00
Additional Settlement Charges		
Survey	4	
Pest Inspection	\$75.00	
Courier Fees		
Homeowner's Warranty		
Other		
Property Taxes	\$396.00	\$1,764.00
Total Settlement Charges (Enter here and on the lines where indicated on Part B of the Worksheet)	\$8,026.85	\$16,424.00

# Closing Exercise Worksheet - Part B

### Summary of Borrower's Transaction

# Charges to Borrower

Gross Amount Due From Borrower	
Contract sales price	\$235,000.00
Personal property	
Settlement charges to borrower (from bottom line of borrower's column on Part A of Worksheet)	\$8,026.85
Adjustments for items paid by seller in adva	ance
Real property taxes	
Assessments	
Gross Amount Due from Borrower (Total Charges to Borrower)	\$243,026.85

# Credits to Borrower

Amounts Paid By or In Behalf of Borrowe	r
Deposit or earnest money	\$5,000.00
Principal amount of new mortgage loan(s)	\$188,000.00
Purchase money second mortgage	\$10,000.00
Adjustments for items unpaid by seller	
Real property taxes	
Assessments	
Total Paid By/For Borrower (Total Credits to Borrower)	\$203,000.00

### Summary of Seller's Transaction

# Credits to Seller

Gross Amount Due to Seller	
Contract sales price	\$235,000.00
Personal property	
Adjustments for items paid by seller i	n advance
Real property taxes	
Assessments	
Gross Amount Due to Seller	
(Total Credits to Seller)	\$235,000.00

# Charges to Seller

Reductions in Amount Due to Seller	.,
Settlement charges to seller (from bottom line of seller's column on Part A of Worksheet)	\$16,424.00
Payoff of seller's mortgage loan(s)	\$126,400.00
Purchase money second mortgage	\$10,000.00
Adjustments for items unpaid by seller Real property taxes	
Assessments	
Total Reduction In Amount Due to Seller (Total Charges to Seller)	\$153,498.16

# Cash at Settlement

(Reconciliation of Total Charges and Credits)

#### Cash At Settlement From/To Borrower

Gross amount due from borrower (Total Charges to Borrower)	\$243,026.85
Less amounts paid by/for Borrower (Total Credits to Borrower)	\$203,000.00
Cash K From To Borrow	\$40,026.85

### Cash at Settlement To/From Seller

Gross amount due to seller (Total Credits to Seller)	\$235,000.00	
Less reductions in amount due to seller (Total Charges to Seller)	\$153,498.16	
Cash To Grom Seller	\$81,501.84	

#### **CLOSING WORKSHEET MATH CALCULATIONS**

#### **Pre-paid interim interest**

 $$188,000 \times 0.75 = $14,100$  Interest/year  $$14,100 \div 360 = $39.17$  Interest/day  $$39.17 \times 17 = $274.19$  Debit-Buyer

#### **Accrued Interest**

 $$126,400 \times .08 = $10,112$  Interest/year  $$10,112 \div 360 = $28.09$  Interest/day  $$28.09 \times 24 = $674.16$  Accrued Interest

#### **Real Property Taxes**

\$2,160  $\div$  360 = \$6.00 Taxes/Day 1/1 - 10/24 = 294 Days Seller's Portion 10/25 - 12/30 = 66 Days Buyer's Portion \$6.00 x 294 = \$1,764.00 Charge to Seller \$6.00 x 66 = \$396.00 Charge to Buyer

#### **Escrow Deposits**

 $$2,160 \div 12 = $180$  Taxes/Mo.  $180 \times 4 = $720$  4 Mo. Taxes

 $$540 \div 12 = $45$  H.O. Insurance/Mo.  $$45 \times 2 = $90 \ 2$  Mo. H.O. Ins.

 $$658 \div 12 = $54.83$  Annual PMIRenewal/Mo.  $$54.83 \times 2 = $109.66$  2 Mo. PMI Renewal

# Closing Exercise Worksheet - Part A

Settlement Charges	Paid from Borrower's	Paid from Seller's
	Funds at Settlement Charges to Borrower	Funds at Settlement Charges to Seller
Real Estate Broker Fees	James to Sanzara	S THE STATE OF THE
Commission paid at settlement		
<u> </u>		
Items Payable in Connection with Loan		
Loan origination fee/charge		
Loan discount points for specific interest rate chosen		
A		
Appraisal fee Credit report fee		-
Flood plain certification		
Flood plant certification		
Items Required by Lender to be Paid in Advance		
Daily interest charges from to @ \$ per day		
Mortgage insurance premium for months		
Homeowner's insurance premium for years		
Reserves Deposited with Lender (for Escrow Account)		
Homeowner's insurancemonths @ \$per month		
Mortgage insurancemonths @ \$per month		
Property taxesmonths @ \$per month		
Title Charges		
Closing attorney's fee		
Title insurance premium (lender's and/or owner's policy)		
Deed preparation fee		
Government Recording and Transfer Charges		
Recording fees: Deed \$ Mortgage \$		
Excise tax (state tax stamps)		
Recording Fees: Release \$15		
Additional Settlement Charges		
Survey Survey		
Pest Inspection		
Courier Fees		
Homeowner's Warranty		
Other		
300,000,000		
Total Settlement Charges (Enter here and on the		
lines where indicated on Part B of the Worksheet)		
20		

# Closing Exercise Worksheet - Part B

# Summary of Borrower's Transaction

# Charges to Borrower

Gross Amount Due From Borrower	
Contract sales price	
Personal property	
Settlement charges to borrower (from bottom line of borrower's column on Part A of Worksheet)	-
Adjustments for items paid by seller in advan	nce
Real property taxes	
Assessments	
Gross Amount Due from Borrower (Total Charges to Borrower)	

#### Credits to Borrower

Amounts Paid By or In Behalf of Borrower	
Deposit or earnest money	
Principal amount of new mortgage loan(s)	
Purchase money second mortgage	
Adjustments for items unpaid by seller	
Real property taxes	
Assessments	
Total Paid By/For Borrower	
(Total Credits to Borrower)	

# Summary of Seller's Transaction

### Credits to Seller

Gross Amount Due to Seller	
Contract sales price	
Personal property	
Adjustments for items paid by seller in	n advance
Real property taxes	
Assessments	
Gross Amount Due to Seller	
(Total Credits to Seller)	

# Charges to Seller

Settlement charges to seller (from bottom line of seller's column on Part A of Worksheet)	
Payoff of seller's mortgage loan(s)	
Purchase money second mortgage	
Adjustments for items unpaid by seller	
Real property taxes	
Assessments	
Total Reduction In Amount Due to Seller	
(Total Charges to Seller)	

# Cash at Settlement

(Reconciliation of Total Charges and Credits)

#### Cash At Settlement From/To Borrower

	mount due fr harges to Borron	om borrower ver)	
	nounts paid by Fredits to Borrow	r/for Borrower ver)	
Cash	☐ From	☐ To Borrower	

#### Cash at Settlement To/From Seller

	imount due Tredits to Seli		
	ductions in Tharges to Se	amount due to seller	
Cash	□То	☐ From Seller	

12/02/09