



# MATH

## PRACTICE EXAM #2



- All calculations utilize the 30-Day Month/360 Day Year Method
  - All costs per period have been rounded to 2 decimal places (i.e., \$3.66 per day) for each time period (Day, Month etc.)
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1. Tom recently purchased a tract of land for \$1,712,450. This tract contains 46.25 acres and has 1,400 feet of road frontage. Torn now wants to buy the adjoining tract of land that has the same depth but only 925 feet of road frontage. Assuming Torn is willing to pay the same price per square foot that he paid for the original tract, how much would he pay for this second tract? Round the depth to the nearest whole number.
  - A. \$1,131,414
  - B. \$1,131,442
  - C. \$1,331,075
  - D. Not enough information given
  
2. A Couple purchased a home for \$140,000 by obtaining a mortgage loan of \$120,000. Five years later the home has increased in value by 15% and their mortgage debt has been reduced to \$110,000. What is the% of increase in their equity?
  - A. 115%
  - B. 126%
  - C. 136%
  - D. 155%

3. Jon recently sold a house listed by XYZ Realty for \$335,000. XYZ has agreed to pay Jon's firm 2.5% as the selling side of the commission. If Jon's firm agrees to pay him 65% of the selling "side", how much money did Jon make as his commission? (Round to whole dollar)
- A. \$2,931
  - B. \$5,444
  - C. \$5,578
  - D. \$10,888
4. Renaldo has just listed his home for sale by agreeing to pay the listing firm a 6% sales commission. He will need to pay off his existing mortgage of \$215,800 and will incur miscellaneous expenses totaling another \$3,250. In addition, he will need \$72,500 in order to purchase his new house. What will be the minimum amount he must sell his for (round answer to whole dollar)?
- A. \$233,032
  - B. \$291,550
  - C. \$309,043
  - D. \$310,160
5. Sam and Betty want to net \$175,000 from the sale of their house to purchase a retirement home. The agent has estimated closing expenses they will pay at \$2,435, along with a loan payoff of \$53,192. Sam and Betty will pay the agent a 6% commission. What should be the selling price of Sam and Betty's house?
- A. \$188,081
  - B. \$188,762
  - C. \$244,465
  - D. \$245,348

6. **Rents-A-Lot Property Management Company has contracted to manage a 6-unit apartment building and will be paid 8% commission on all rents collected. The rental rate is \$900 per unit. Currently 4 of the units are fully rented, one unit was rented to 11 days and one that was occupied but the tenant failed to pay the rent. How much is the management fee that Rents-A-Lot is entitled to collect this month?**
- A. \$3,144
  - B. \$3,336
  - C. \$3,864
  - D. \$4,056
7. **Bill and Beth bought a condominium for \$237,900:by paying 10% down. The loan factor is \$6.32 per \$1,000 borrowed for a 30-year fixed loan with a 6 1/2% interest rate. What is the outstanding loan balance after the 1st payment? (Round to the whole dollar)**
- A. 213,917
  - B. 212,757
  - C. 237,707
  - D. 212,950
8. **Ellen has an annual salary of \$49,800 and wants to purchase a home with a total housing expense of no more than \$1,000 per month. What is the maximum recurring debt that Ellen will be allowed to qualify under the 28/36% qualifying ratios?**
- A. \$138
  - B. \$162
  - C. \$494
  - D. \$632

9. Teresa paid \$1,477 to her mortgage company for this month's PITI of which \$501.25 was allocated for interest and \$190.50 was allocated for taxes and insurance. Her annual interest rate is 7%. What is Teresa's current outstanding loan balance after this payment? (rounded)
- A. \$44,310
  - B. \$85,929
  - C. \$87,818
  - D. \$167,271
10. Elliot purchased a home for \$235,000 by paying 5% down. A lender wrote a fixed 20 year note at 6.25%. The PITI is \$1,990.17, of which \$358.37 is for taxes and insurance. How much interest will Elliot pay over the life of the loan?
- A. \$156,632
  - B. \$168,382
  - C. \$254,391
  - D. \$364,198
11. Seller has agreed to sell her home and the annual tax bill of \$954 is to be prorated. If settlement is scheduled to be on April 28<sup>th</sup> and the taxes for the current year have not yet been paid how will the resulting entry appear on the settlement worksheet?
- A. \$312.70 Debit – Seller, Credit – Buyer
  - B. \$392.20 Credit – Seller, Debit – Buyer
  - C. \$641.30 Debit – Buyer, Credit – Seller
  - D. \$641.30 Credit – Buyer, Debit – Seller

12. Alan and Sarah are closing on the sale their current residence on the 18th of July. After their July 1st mortgage payment, the outstanding loan balance is \$192,718. With an interest rate of 7 1/8%, what would be the amount of accrued interest due to their lender at closing?
- A. \$458
  - B. \$496
  - C. \$687
  - D. \$699
13. Arnold is purchasing a rental property that contains four units that rent for \$1,125 each. The scheduled date for settlement is the 23<sup>rd</sup> of the month and all of the rents for the current month have already been paid. How will the resulting rent proration entry appear on the settlement worksheet?
- A. \$1,050 Debit – Buyer, Credit - Seller
  - B. \$1,050 Debit – Seller, Credit - Buyer
  - C. \$3,450 Debit – Buyer, Credit - Seller
  - D. \$3,450 Debit – Seller, Credit – Buyer
14. Abi has agreed to sell her house for \$385,900 with settlement to be held on September 18<sup>th</sup>. The mortgage payoff as of that date is \$219,350. Property taxes for the year have already been paid and totaled \$1,530. The buyer paid a \$2,500 due diligence fee and \$3,000 as the earnest money deposit with the original offer. In addition to the 6% commission that Abi agreed to pay the listing firm she will also incur an additional \$2,750 in assorted miscellaneous fees. How much will Abi receive at the settlement? (Round all entries to nearest whole dollar)
- A. \$144,080
  - B. \$143,580
  - C. \$138,580
  - D. \$137,712

**15. Mollie has agreed to purchase a home for \$439,900 and pays \$3,500 as the earnest money deposit in addition to a \$2,000 due diligence fee. She has agreed to obtain a mortgage in the amount of \$350,000 at an interest rate of 3.5%. She will be required to pay interim interest at settlement in addition to prorating the annual property taxes which are estimated at \$4,500 and have not been paid for the year. There is also a total of \$1,500 in miscellaneous expenses that Mollie will also incur. If settlement is scheduled for April 11<sup>th</sup> how much will Mollie need to bring to the settlement? (Round all entries to nearest whole dollar)**

- A. \$83,956**
- B. \$85,318**
- C. \$87,844**
- D. \$89,318**

# ANSWER KEY

## Math Practice Exam #2

1.	A
2.	D
3.	B
4.	D
5.	D
6.	A
7.	A
8.	C
9.	B
10.	B
11.	A
12.	C
13.	D
14.	C
15.	B



REAL ESTATE SCHOOL

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## SOLUTIONS

- 1.  $43,560 \times 82.63 = 3,599,362.8$  Total Square Feet**  
 **$3,599,362.8 \times .10 = 359,936.28$  Square Feet for streets and sidewalks**  
 **$3,599,362.8 - 359,936.28 = 3,239,426.6$  Square Feet for lots**  
 **$85 \times 145 = 12,325$  Square Foot Per Lot**  
 **$359,936.28 \div 12,325 = \#$  of Lots**  
**\* Only 262.83 whole Lots Can be Obtained.**
- 2.  $\$140,000 - \$120,000 = \$20,000 =$  Original Equity**  
 **$\$140,000 \times 115\% (1.15) = \$161,000 =$  Current Value**  
 **$\$161,000 - \$110,000 = \$51,000 =$  Current Equity**  
 **$\$51,000 - \$20,000 = \$31,000 =$  Increase in Equity**  
 **$\$31,000 + \$20,000 = (1.55) \% 155\% =$  % Increase in Equity**
- 3.  $\$335,000 \times 2.5\% = \$8,375$  Selling side commission**  
 **$\$8,375 \times 65\% = \$5,444$  Total commission (rounded)**
- 4.  $\$215,800 + \$3,250 + \$72,500 = \$291,550$  94% of needed sales price**  
 **$\$291,550 / 94\% = \$310,160$  Minimum Sales Price Needed**
- 5.  $\$175,000 + \$2,435 + \$53,192 = \$230,627$**   
**Sales Price= total expenses+ total commission.**  
**The total expenses are 94% of Sales Price.**  
 **$\$230,627 \div 94 = \$245,348 =$  Sales Price**
- 6.  $\$900 \times 4 = \$3,600$  Rent for 4 units**  
 **$\$900 / 30 = \$30$  Rent per day**  
 **$\$30 \times 11 = \$330$  Rent due for 1 unit**  
 **$\$3,600 + \$330 = \$3,930$  Total rent collected**  
 **$\$3,930 \times 8\% = \$3,144$  Management fee due**

7.  $\$237,900 \times .90 = \$214,110 = \text{Loan Amount}$   
 $\$214,110 \div \$1,000 = 214.11 \text{ \# of units of } \$1,000$   
 $\$6.32 \times 214.11 = \$1,353.18 = \text{P\&I per month}$   
**Loan Amount after the 1st Payment:**  
 $\$214,110 \times .065 = \$13,917.15 = \text{Interest per year}$   
 $\$13,917.15 \div 12 = \$1,159.76 = \text{Interest/1st month}$   
 $\$1,353.18 - \$1,159.76 = \$193.42 = \text{Principal included in 1st payment}$   
 $\$214,110 - \$193.42 = \$213,916.58 = \text{Outstanding Loan Balance after the 1st payment}$
8.  $\$49,800 \div 12 = \$4,150 \text{ income/month}$   
 $\$4,150 \times .36 = \$1,494 \text{ max housing exp \& debt}$   
 $\$1,494 - \$1,000 = \$494 \text{ max recurring debt/month}$
9.  $\$501.25 \times 12 = \$6,015 = \text{Interest/year}$   
 $\$6,015 \div .07 = \$85,929 = \text{Loan Balance}$
10. **PITI - TI = PI**  
 $\$1,990.17 - \$358.37 = \$1,631.80 = \text{PI}$   
**20 Year note = 240 payments**  
 $\$1,631.80 \text{ PI/Month} \times 240 \text{ payments} = \$391,632 = \text{Total PI over the life of the loan.}$   
**Loan Amount =  $\$235,000 \times .95 = \$223,250$**   
**Total PI - Total P = Total I over the life of the loan.**  
 $\$391,632 - \$223,250 = \$168,382 = \text{Total Interest over the life of the loan.}$
11.  $\$954 / 360 = \$2.65 \text{ Taxes per day}$   
 $1/1 - 4/28 = 118 \text{ Days}$   
 $\$2.65 \times 118 = \$312.70 \text{ Debit - Seller, Credit - Buyer}$

12.  $\$192,718 \times .07125 = \$13,731.16 = \text{Interest/year}$   
 $\$13,731.16 \div 12 = \$38.14 = \text{Interest/day}$   
 $\$38.14 \text{ Interest/Day} \times 18 \text{ Days} = \$686.52 = \text{Total Accrued Interest}$

13.  $\$1,125 \times 4 = \$4,500 \text{ Total Rent for Month}$   
 $\$4,500 / 30 = \$150 \text{ Rent per day}$   
 $1 - 23 = 23 \text{ Days Seller Owes Buyer}$   
 $\$150 \times 23 = \$3,450$   
**Debit – Buyer, Credit – Seller**

14.

Item	Debit	Credit
Sales Price		\$385,900
Loan Payoff	\$219,350	
Property Taxes		\$434
Due Diligence	\$2,500	
Commission	\$23,154	
Misc. Costs	\$2,750	
Subtotal	\$247,754	\$386,334
Needed to Close	\$138,580	
Balance	\$386,334	\$386,334

**Property Taxes**

$\$1,530 / 360 = \$4.25 \text{ Taxes per Day}$

$9/18 - 12/30 = 102 \text{ Days Buyer Owes Seller}$

$\$4.25 \times 102 = \$433.50 \text{ Credit – Seller}$



15.

<b>Item</b>	<b>Debt</b>	<b>Credit</b>
<b>Purchase Price</b>	<b>\$439,900</b>	
<b>Earnest Money</b>		<b>\$3,500</b>
<b>Due Diligence</b>		<b>\$2,000</b>
<b>Mortgage</b>		<b>\$350,000</b>
<b>Interim Interest</b>	<b>\$681</b>	
<b>Property Taxes</b>		<b>\$1,263</b>
<b>Misc. Costs</b>	<b>\$1,500</b>	
<b>Sub Total</b>	<b>\$442,081</b>	<b>\$356,763</b>
<b>Due from Buyer</b>		<b>\$85,318</b>
<b>Balance</b>	<b>\$442,081</b>	<b>\$442,081</b>

**Interim Interest**

**$\$350,000 \times 3.5\% = \$12,250$  Annualized Interest**

**$\$12,250 / 360 = \$34.03$  Interest per Day**

**$4/11 - 4/30 = 20$**

**$\$34.03 \times 20 = \$680.60$  Debit – Buyer**