Math Problem Solutions - Set 2 (2019)

There are several different ways to approach a math problem and arrive at the correct answer. The solutions provided here are believed to be the most basic approach.

Remember:

To change a fraction to a decimal, divide the numerator by the denominator
      Examples: ½ = 1 ÷ 2 = .5   ¼ = 1 ÷ 4 = .25

To change a percentage to a decimal, move the decimal two places to the left
      Examples: 50% = .50   95% = .95   3% = .03

To change a decimal to a percentage, move the decimal two places to the right
      Examples: .5 = 50%   .25 = 25%   1.50 = 150%

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1.  6,500 ÷ 12 = 541.67
    541.67 x 5.5 = $2,979.19


2.  1,712 ÷ 90 = 19.02
    19.02 x 19 = $361.38


3.  405,000 x 3.5% = 14,175 (Down payment)
    405,000 x 96.5% = 390,825 (Loan amount)
    390,825 x 1.5% = 5,862.38 (Points)
    $14,175 (down payment) + $5,862.38 (Points) = $20,037.38


4.  319,000 x 5% = 15,950 (Gross commission)
    15,950 ÷ 2 = 7,975 (50% of gross commission)
    7,975 x 30% = 2,392.50 (Broker's share of listing side)
    7,975 x 50% = 3,987.50 (Broker's share of selling side)
    2,392.50 + 3987.50 = $6,380


5.  100% - 4.5% (broker's commission) = 95.5% (Sellers required share)
    280,000 (seller's required net) ÷ 95.5% = $293,193.71


6.  325,000 ÷ 1,000 = 325
    325 x $6.00 = $1,950


7.  216,000 x 6.25% = 13,500 (Annual interest)
    13,500 ÷ 12 = $1,125 (1 month interest)


8.  369,000 X 63% = 232,470 (Assessed value)
    232,470 ÷ 100 = 2,324.7 (Units of 100)
    2,324.7 x 3.81 = 8,857.11 (Annual taxes)
    8,857.11 ÷ 360 = 24.60 (Daily tax rate)
    24.60 x 19 days = $467.40


9.  525,000 ÷ 2,750 = $190.91
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10. 100% + 12% = 112%
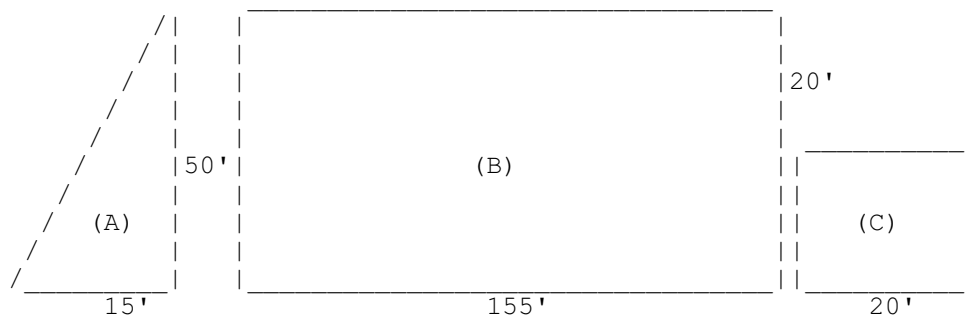
    630,000 ÷ 112% = 562,500
    562,500 ÷ 112% = 502,232.14
    502,232.14 ÷ 112% = 448,421.55
    448,421.55 ÷ 112% = 400,376.38

11. 125 x 70 = 8,750 x 4 floors = 35,000 sq. ft.
    35,000 - 1,200 (Unusable space) = 33,800 (Rentable space)
    20.75 x 33,800 = 701,350 (Annual rent)
    701,350 ÷ 12 = $58,445.83 (Monthly rent)

12. 25 acres x 24% = 6 Acres, open space
    19 acres ÷ .5 = 38 Lots
    38 lots x 175,000 = $6,650,000

    Option B $6,650,000
    Option A   -5,000,000
               $1,650,000

13.
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        /|   |   _____
       / |   |  |                                |   |
      /  |   |  |                                |   |
     /   |   |  |                                |20'|
    /    |   |  |                                |   |
   /    |50'| |  |                (B)            || |_____
  /     |   |  |                                ||  |         |
 /  (A) |   |  |                                ||  |  (C)    |
/       |   |  |                                ||  |         |
/_____|   |  |_____||  |_____|
   15'        |_____155'_____||     20'
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              AREA
    A) 15 x 50 = 750 ÷ 2 = 375 Square feet
    B) 155 x 50 = 7,750 Square feet
    C) 20 x 30 = 600 Square feet

       375
     1,750
    + 600
     8,725 Total area

    $116,141 ÷ 8,725 = $13.31 Per square foot

    If the neighbor bought the land, he would be buying the
    triangular section (375 square feet)

    $13.31 x 375 = $4,991.25

    $4,991.25 Cost to buy the land
    -1,425.00 Cost to rebuild the fence
    $3,566.25 Difference

14. 1.87 x 43,560 (Square feet in an acre) = 81,457.2
    3.55 x 81,457.2 = $289,173.06

15. 1,640 x 12 = 19,680 (Annual interest)
    19,680 ÷ 7% = 281,142.85 (Loan amount)
    281,142.85 ÷ 85% = $330,756.29 (Purchase Price)

16. 15,000 x 40% = 6,000 (Monthly expenses)
    15,000 - 6,000 = 9,000 (Monthly net income)
    9,000 x 12 = 108,000 (Annual net income)
    108,000 ÷ 9% = $1,200,000

17. 359,000 ÷ 135% = 265,925.92

18. 419,500 x 5% = 20,975 (Gross commission)
    20,950 x 50% = 10,487.50 (Gross commission, Sam's office)
    10,487.50 x 55% = $5,768.13

19. $629,000 x 5% = $31,450 Sales commission

    Closing Costs
        $31,450 Commission
          5,492 RTF
          2,500 Concession
          2,350 Legal and other
        $41,792

    $629,000 (sale price) - 41,792 = $587,208
    $587,208 - 392,000 (mortgage payoff) = 195,208 Seller's Net

20. 100% - 7% = 93%

    999,000 x 93% = 929,070
    929,070 x 93% = 864,035.10
    864,035.10 x 93% = 803,552.64
    803,552.64 x 93% = 747,303.95
    747,303.95 x 93% = 694,992.68

21. 14 x 16 = 224 sq. ft.
    224 ÷ 9 = 24.89 sq. yds.
    22.45 x 24.89 = $558.78

22. 375,000 ÷ 1,000 = 375
    6.00 x 375 = 2,250

    7,586 + 628 = 8,214
    8,214 ÷ 12 = 684.5

    2,250 + 684.5 = $2,934.50

23. 27.50 x 25,000 = 687,500

    4,500,000 - 4,200,000 = 300,000
    300,000 x 2.5% = 7,500

    687,500 + 7,500 = $695,000

24. Present rent = 100%
     Increased Rent = Present rent + 3% (103%) each year

     $2,350.00 x 103% = $2,420.50
     $2,420.50 x 103% = $2,493.12
     $2,493.12 x 103% = $2,567.91
     $2,567.91 x 103% = $2,644.95

25. 93,000 x 40% = 37,200 (Expenses)
     93,000 - 37,200 = 55,800 (Annual net income)
     55,800 ÷ 9.5% = $587,368.42

26. 100 x 135 = 13,500 sq. ft.
     13,500 x 18 = 243,000 cu. ft.

27. $495,000 x 80% = $396,000
     $7.778 x 396 = $3,080.09