Kansas City Area Teachers of Mathematics
2011 KCATM Math Competition

MENTAL MATH
GRADE 4

NO CALCULATOR

INSTRUCTIONS

- **Do not open this booklet** until instructed to do so.

- Time limit: **15 minutes**

- You **may NOT use calculators** on this test.

- Some multiple-choice questions do not have the correct answer as one of the choices. On those questions, the response is e) not given
    i.e. 3 + 4 =   a) 4   b) 5   c) 6   d) 8   e) Not given

- If a division problem has a remainder (for instance 21 ÷ 5 = ??), the answer is in this form: **4 r 1**

- All fractions are expressed in lowest terms.

- All answers that are improper fractions are written as mixed numerals or whole numbers.
    i.e. $\frac{4}{2}$ should be written as 2
    $\frac{7}{3}$ should be written as $2\frac{1}{3}$

1. **33 x 8 =**   a) 264   b) 244   c) 251   d) 261   e)   not given

2. **254 + 87 =**   a) 351   b) 333   c) 231   d) 341   e)   not given

3. **81 – 64 =**   a) 13   b) 23   c) 17   d) 19   e)   not given

4. **78 ÷ 12 =**   a) 7 r 6   b) 6   c) 6 r 6   d) 6 r 5   e)   not given

5. **16 x 9 =**   a) 138   b) 143   c) 115   d) 174   e)   not given

6. **56 + 34 + 18 =**   a) 108   b) 98   c) 118   d) 128   e)   not given

7. **55 + 98 + 645 =** a) 838   b) 808   c) 898   d) 798   e)   not given

8. **$7.82 + $4.25 =** a) $11.07 b) $12.17 c) $11.97 d) $12.07 e)   not given

9. **38 + 22 + 63 + 57 =** a) 180   b) 170   c) 160   d) 190   e)   not given

10. **305 ÷ 5 =**   a) 601   b) 60 r 3   c) 61   d) 61 r 1   e)   not given

11. **5,000 – 1,368 =** a) 3,622   b) 4,622   c) 3.632   d) 4.632   e)   not given

12. **23.5 – 9.6 =**   a) 13.9   b) 14.9   c) 14.1   d) 13.1   e)   not given

13. **51 5/7 - 22 4/7 =** a) 29 1/7 b) 28 2/7 c) 31 3/7 d) 30 1/7 e)   not given

14. $\left(\dfrac{2}{3}\right) \bullet 6 =$ a) 12   b) 4   c) 2/9   d) 1/9   e)   not given

15. **(-3)(8) =**   a) 24   b) 21   c) -21   d) -24   e)   not given

16. ¼ + ¼ + ¼ - ¼ =   a) 1/8   b) 1/4   c) 3/4   d) 1/2   e)   not given

17. **47 x 8 =**   a) 325   b) 376   c) 374   d) 356   e)   not given

18. **25 x 9 =**   a) 175   b) 150   c) 225   d) 215   e)   not given

19. **110 x 110 =**   a) 121   b) 1,210   c) 12,100   d) 121,000   e)   not given

20. **32 - 3 x 9 =**   a) 171   b) 44   c) 315   d) 5   e)   not given

21. **843 ÷ 7 =**   a) 106 r 1   b) 120 r 3 c) 116 r 1   d) 120 r 1 e)   not given

22. **47 ÷ 6 =**   a) 7 r 1   b) 7 r 4   c) 7 r 3   d) 7 r 5   e)   not given

23. You buy 5 granola bars for $2.45. How much change do you have left from $5 if you purchase 10 of them?
     a) $0.10   b) $0.20   c) $0.15   d) $0.25   e)   not given

24. What is the cost of this Royal's game?   ticket: $12.00, hot dog: $4.50; soda: $3.75
     a) $20.50   b) $21.25   c) $20.75   d) $21.25   e)   not given

25. What is the mean (average) of these two test scores: 76% and 88%?
     a) 81%   b) 82%   c) 83%   d) 84%   e)   not given

26. What is the sum of the first 10 numbers, 1 through 10?
     a) 11   b) 72   c) 55   d) 48   e) not given

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For questions #27-31 **choose the closest estimate** to the answer.

27. **2.9 x 820 =**   a) 24   b) 240   c) 2,400   d) 24,000 e) 240,000

28. $\dfrac{26}{27} + \dfrac{36}{3} + 1\dfrac{8}{9}$ a) 12   b) 13   c) 14   d) 15   e) 16

29. **½ x 299 =**   a) 150   b) 140   c) 155   d) 145   e) 160

30. $25\overline{)1005}$ a) 40   b) 50   c) 400   d) 500   e) 45

31. **7,589 + 1,821 =**   a) 9,500 b) 9,400 c) 9,300   d) 9,600   e) 9,200

#32-35: Write the next number in the sequence:

32. 2, -6, 18, …   a) -30   b) 30   c) -54   d) 54   e) not given

33. 83, 77 , 71, 65, … a) 58   b) 57   c) 60   d) 59   e) not given

34. 3, 6, 12, 24, …   a) 48   b) 36   c) 34   d) 46   e) not given

35. 1, 4, 9,16, …   a) 21   b) 25   c) 36   d) 42   e) not given

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For questions #36-38, there are four problems that have been worked. One of the problems on each question has an incorrect answer. Identify the problem that has the incorrect answer. *Hint:* Use estimation to quickly **identify the incorrect answer**.

36. a)   812,301   b)   54,365   c)   76   d) 201 ÷ 5 = 40 r 1
            520,143   - 25,847   x 57
         +   60,056   28,518   4,336   e) not given
          1,392,500

37. a)   96,453   b) 230,896   c)   85   d) 754 ÷ 5 = 150 r 4
          + 68,265   - 148,567   x 45
            164,718   82,328   3,825   e) not given

38. a)   200,896   b)   43,521   c)   562   d) 840 ÷ 3 = 280
          + 91,187   - 19,455   x 19
            292,089   24,066   10,678   e) not given

39. $4\dfrac{3}{5} + 2\dfrac{1}{2} + \dfrac{3}{4} =$

      a) $6\dfrac{7}{11}$ b) $7\dfrac{7}{11}$ c) $7\dfrac{17}{20}$ d) $6\dfrac{1}{2}$ e) not given

40. How many different ways can you make a login code if you can choose 3 digits from 1 to 9? The numbers can repeat.
      a) 30   b) 27   c) 500   d) 1000   e) not given