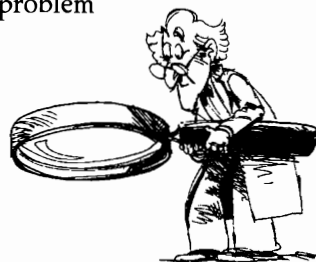



23. The two whole numbers are 1 and 7. Their sum is $1+7 = 8$ . A) 6      B) 7      C) 8      D) 14	23. C
24. As you can see from the solution to problem 23, one of the numbers must be 1. A) 1    B) 2    C) 3    D) 4	24. A
25. Of the 25 letters besides U, 5 (V, W, X, Y, and Z) come after U, and $25-5 = 20$ letters come before. A) E    B) G    C) T    D) U	25. D
26. Since $37¢ - 22¢ = 15¢$ , doubling my nickels gave me 3 nickels' worth more. So I must have had 3 nickels before doubling. A) 3      B) 4      C) 5      D) 6	26. A
27. 12 clips for $48¢ = 1$ for $4¢$ . For \$1, I get $100¢ \div 4¢ = 25$ paper clips. A) 24      B) 25      C) 26      D) 96	27. B
28. Sam bought twice as many ice pops as Lee. Since Sam bought 18, Lee bought 9. Lee bought 3 times as many as Pat. Since Lee bought 9, Pat bought 3. A) 1    B) 3    C) 6    D) 9	28. B
29. If the bus & train are on the same side, one 2 km and one 5 km from the vendor, then the distance between the bus and train is $(5-2)$ km = 3 km. A) 3 km    B) 5 km    C) 7 km    D) 10 km	29. A
30. My sunflower doubles in size 6 times: First it's 2 times, then 4 times, 8 times, 16 times, 32 times, and finally 64 times as big. A) 2      B) 6      C) 49      D) 64	30. D



The end of the contest  **4**

Visit our Web site at <http://www.mathleague.com>  
Steven R. Conrad, Daniel Flegler, and Jeannine Kolbush, contest authors



## Information & Solutions

Spring, 2005

### Directions for Grading

# 4

- Date** You may give this contest anytime after April 15. The *4th Grade Contest* is for use in your own school or district. We've enclosed a registration form for next year. Since results are *not* used for interschool comparisons, **we do not enclose a score report form**.
- Urgent questions?** Call 1-201-568-6328.
- Scores** Remind students that *this is a contest, not a test*—and there is no “passing” or “failing” score. Few students score as high as 24 points (80% correct); students with half that, 12 points, *should be commended!*
- Solutions** Detailed solutions appear in each question box, and letter answers are in the *Answers* columns on the right. You may copy this solution key and give a copy to every student who took this contest.
- Awards** The original contest package contained 1 book award (and a bookplate you should affix to the book's inside front cover) for the 1st place student. We also enclosed 5 *Certificates of Merit*—1 each for the runner-up on each grade level, plus extras for ties.
- Additional Book Awards & Additional Certificates** If you want to give more than 1 book award, you may purchase additional books as described below. Do you need more Certificates of Merit? If so, send your name, school, and school mailing address to our mailer at: **Math Certificates, P.O. Box 17, Tenafly, NJ 07670-0017**, and include a self-addressed, stamped envelope (2 stamps required) large enough to hold certificates.

The school's top scorer will receive the book *Math Contests—Grades 4,5,6 (Vol. 3)*. Other high scorers receive Certificates of Merit. In any one school year, no student may win both a book and a certificate. The book and certificates were in the original contest package. Special “bumper sticker” awards are included for high scoring students.

*If needed, duplicate book awards may be ordered as described below.*

Fifteen books of past contests, *Grades 4, 5, & 6 (Vols. 1, 2, 3, 4, 5)*, *Grades 7 & 8 (Vols. 1, 2, 3, 4, 5)*, and *High School (Vols. 1, 2, 3, 4, 5)*, are available, for \$12.95 per volume (\$15.95 Canadian), from Math League Press, P.O. Box 17, Tenafly, N.J. 07670-0017.

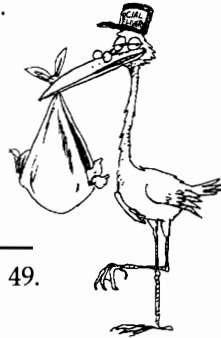
1. I can change my \$1 into 10 dimes. Each gumball costs 1 dime.  
A) 2      B) 5      C) 10      D) 20

1.  
C

2. If 0 is a factor, the value of the product is 0.  
A) 0    B) 10    C) 100    D) 2005

2.  
A

3. Ork the stork delivers 2 babies every day. In 7 days, Ork delivers  $2 \times 7 = 14$  babies.  
A) 2    B) 7    C) 14    D) 21



3.  
C

4. 2 more than 52 is 54, and 5 less than that is 49.  
A) 47    B) 49    C) 54    D) 57

4.  
B

5. One day before Mon. is Sun., so two days before Mon. is Sat.  
A) Saturday    B) Sunday    C) Wednesday    D) Friday

5.  
A

6.  $(15-14)+(13-12)+(11-10)+(9-8)+(7-6)+(5-4) = 6 \times 1 = 6$ .  
A) 6      B) 7      C) 12      D) 114

6.  
A

7.  $45 = 15+30$ , 15 mins. after 4:45 is 5:00, & 30 mins. later is 5:30.  
A) 4:00    B) 5:00    C) 5:15    D) 5:30

7.  
D

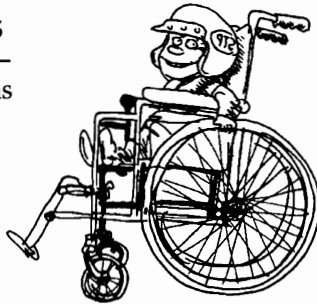
8.  $\$2 + 20\text{¢} = \$1 + \$1 + 20\text{¢} = \$1 + 100\text{¢} + 20\text{¢} = \$1 + 120\text{¢}$ .  
A) 100    B) 120    C) 200    D) 220

8.  
B

9.  $(205 \times 205) \div 205 = 205 \times (205 \div 205) = 205 \times 1 = 205$ .  
A) 1    B) 2    C) 25    D) 205

9.  
D

10. A small wheel on my wheelchair has a diameter that's 16 cm long. This wheel's radius is half as long, 8 cm.  
A) 4    B) 8    C) 32    D) 196



10.  
B

11.  $1 \times (2 + 3) \times 4 = 1 \times 5 \times 4 = 20$ .  
A) 10    B) 14    C) 20    D) 24

11.  
C

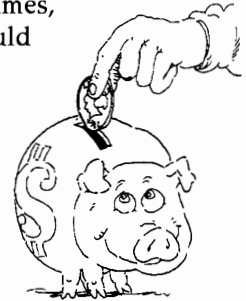
12. Ten thousand is written as 10 000. The number of 0s needed is 4.  
A) 3      B) 4      C) 5      D) 6

12.  
B

13.  $60 \times 60 = 3 \times 20 \times 3 \times 20 = 20 \times 20 \times 3 \times 3 = 20 \times 20 \times 9$ .  
A) 3      B) 9      C) 80      D) 900

13.  
B

14. Use trial and error. If we each put in 4 dimes, then the total number of dimes used would have been  $4 \times 4 + 3 = 16 + 3 = 19$ . If we each put in 5 dimes, the total would have been  $4 \times 5 + 3 = 23$ , choice A.  
A) 23    B) 24    C) 25    D) 26



14.  
A

15.  $(8-3) \times (2-1) = (5) \times (1) = 5$ .  
A) 1    B) 3    C) 5    D) 9

15.  
C

16. Since 6633 is *not* even, it *cannot* be divisible by 6.  
A) 3366    B) 4422    C) 6630    D) 6633

16.  
D

17. When I multiply a number by 5 and the product is 0, then the number itself is 0. When I multiply 0 by 6, that product is also 0.  
A) 0      B) 1      C) 6      D) 12

17.  
A

18.  $(10 \times 100) + (100 \times 10) = 1000 + 1000 = 2000 = 2000$  ones.  
A) 1000    B) 2000    C) 10 000    D) 20 000

18.  
B

19. The perimeter of my square hammock is 64. Each side of my hammock is  $64 \div 4 = 16$ .  
A) 4    B) 8    C) 16    D) 32



19.  
C

20. As shown here, , I can form triangles or rectangles, both of which are polygons.  
A) triangles    B) rectangles  
C) polygons    D) squares

20.  
D

21. Neither 4 nor 16 is divisible by 12, but 24 is divisible by 8 and 12.  
A) 4      B) 16      C) 24      D) 48

21.  
C

22. The product of *any* two odd numbers is *always* odd.  
A) 2005    B) even    C) odd    D) prime

22.  
C