

1. The difference between 34 343 and 1212 is $34\,343 - 1212 = 33\,131$. A) 13 133 B) 22 223 C) 32 222 D) 33 131	1. D
2. $(100 - 40) + (90 - 30) + (80 - 20) = 60 + 60 + 60 = 3 \times 60$. A) 20 B) 60 C) 80 D) 180	2. B
3. Since 9999, 999, and 99 are all divisible by 9, the remainder is 4. A) 1 B) 3 C) 4 D) 5	3. C
4. 1 million \div 500 thousand = $1\,000\,000 \div 500\,000 = 10 \div 5 = 2$. A) 2 B) 10 C) 20 D) 50	4. A
5. $2^4 - 2^3 - 2^2 - 2^1 = 16 - 8 - 4 - 2 = 16 - 14$. A) 1 B) 2 C) 14 D) 15	5. C
6. Jo is the 12th person "bigged" at McBurgers. Between Jo and the 25th person are the 13th, 14th, 15th, . . . , 23rd, and 24th persons. A) 11 B) 12 C) 13 D) 14	6. B
7. The first four odd whole numbers are 1, 3, 5, and 7. Their sum is 16. A) 6 B) 9 C) 10 D) 16	7. D
8. Tens' digit of $22\,222 \times 22\,222 =$ tens' digit of $(22 \times 22 = 484) = 8$. A) 8 B) 6 C) 4 D) 2	8. A
9. $8777 - 7778 = 999 = 444 + 555$. A) 445 B) 455 C) 545 D) 555	9. D
10. 12 small balloons weigh 130 kg. Since $72 = 6 \times 12$, 72 balloons weigh $6 \times 130 \text{ kg} = 780 \text{ kg}$. A) 190 kg B) 650 kg C) 780 kg D) 864 kg	10. C
11. $500 - 350 = 150$. Answer = $500 + 150$. A) 200 B) 650 C) 700 D) 850	11. B
12. $400\text{¢} \div 10\text{¢} = 40$, so answer = $40 \times 25\text{¢} = 1000\text{¢} = \$10.00 = \$10$. A) \$6 B) \$8 C) \$10 D) \$40	12. C
13. The common factors are 1, 2, 3, 4, 6, and 12 (the factors of 12). A) 4 B) 5 C) 6 D) 8	13. C
14. Use the square of the next prime, and $7^2 = 49$. A) 41 B) 49 C) 67 D) 77	14. B
15. (Average of 16 4s = 4) \times (average of 4 16s = 16) = 4×16 . A) 4×16 B) 16×16 C) 16×64 D) 64×64	15. A

16. $2002 = 2 \times 7 \times 11 \times 13$, a product of 4 primes > 0 . (Note: 1 isn't prime.) A) 2 B) 3 C) 4 D) 5	16. C
17. $(3\,000\,000 \text{ birds}) \div (80 \text{ birds per minute}) = 37\,500 \text{ minutes}$. A) 470 minutes B) 625 minutes C) 2500 minutes D) 37 500 minutes	17. D
18. Rewrite as $(10^3 \times 10^3) + (10^2 \times 10^2) + (10^1 \times 10^1)$. A) $10^6 + 10^4 + 10^2$ B) $2 \times (10^3 + 10^2 + 10^1)$ C) 10^{12} D) $10^9 + 10^4 + 10^1$	18. A
19. A) $.20 \times 80 = 16$ B) $.25 \times 65 = 16.25$ C) $.30 \times 50 = 15$ D) $.35 \times 35 = 12.25$. A) 20% of 80 B) 25% of 65 C) 30% of 50 D) 35% of 35	19. B
20. $1 \times 120 = 2 \times 60 = 3 \times 40 = 4 \times 30 = 5 \times 24 = 6 \times 20 = 8 \times 15 = 10 \times 12$. A) 5 B) 11 C) 15 D) 16	20. D
21. The sum of any 3 whole numbers is always a whole number. A) even B) odd C) prime D) whole	21. D
22. The sum of 5 numbers whose average is 10 is $5 \times 10 = 50$. A) 10 B) 25 C) 50 D) 125	22. C
23. Primes: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47. (1 isn't a prime.) A) 15:25 B) 16:25 C) 15:35 D) 16:34	23. A
24. $\sqrt{16 + 16 + 16 + 16} = \sqrt{4 \times 16}$. A) $\sqrt{4 \times 16}$ B) $4 \times \sqrt{16}$ C) $6 + \sqrt{100}$ D) $\sqrt{100} - \sqrt{36}$	24. A
25. After Sam spent 35% of his money, he had 65%, or \$13, left; $65\% : \$13 = 5\% : \$1 = 35\% : \$7$. A) \$6 B) \$7 C) \$20 D) \$23	25. B
26. $3:7 < 7:16$, and both are slightly less than 1:2, so the answer is B. A) 2 B) 3 C) 4 D) 5	26. B
27. If there's a middle number, it's the average. Its value is $153 \div 9 = 17$. A) 9 B) 13 C) 17 D) 21	27. C
28. Each angle is 90° . The sum is $3 \times 90^\circ = 270^\circ$. A) 120° B) 180° C) 270° D) 360°	28. C
29. Jack was 8 when Jill was 2. He was 10 when she was 4. Now he's 12 and she's 6. The sum of their ages now is $12 + 6 = 18$. A) 8 B) 9 C) 12 D) 18	29. D

2012 5th

2001-2002 6TH GRADE CONTEST SOLUTIONS

Answers

<p>30. $1 \times 2 \times 4 \times 8 = 2^6$; $1 \times 2 \times 4 \times 32 = 2^8$; $1 \times 2 \times 4 \times 512 = 2^{12}$. A) 2^4 B) 2^6 C) 2^8 D) 2^{12}</p>	<p>30. A</p>
<p>31. For bikers A, B, C, D, E, the 10 duets are AB, AC, AD, AE, BC, BD, BE, CD, CE, and DE. A) 10 B) 15 C) 20 D) 25</p>	<p>31. A</p>
<p>32. $(2^3 \times 100^3) \div 100^3 = 2^3 = 8 = 200 \div 25$. A) 100 B) 80 C) 25 D) 8</p>	<p>32. C</p>
<p>33. Every 4th number is divisible by 4, so $\frac{3}{4} \times 1000 = 750$ are not. A) 875 B) 850 C) 800 D) 750</p>	<p>33. D</p>
<p>34. The product increases as the numbers get closer, so use $38 \times 38 = 1444$. A) 5776 B) 5700 C) 1444 D) 1443</p>	<p>34. C</p>
<p>35. If 2 of the 5 consecutive years were leap years, then the total number of days would be $2 \times 366 + 3 \times 365 = 1827$. A) 1825 B) 1827 C) 1828 D) 1830</p>	<p>35. B</p>
<p>36. The plane left New York for Vancouver at 2 P.M. and arrived 6 hours later, at 8 P.M. New York time. Vancouver time is 3 hours earlier, so it's 5 P.M. there. A) 11 P.M. B) 9 P.M. C) 8 P.M. D) 5 P.M.</p>	<p>36. D</p>
<p>37. Draw a picture. Area = πr^2, so a radius of the 1st circle = 4 cm, and a radius of 2nd circle = 2 cm = the distance between their centers. A) 2 cm B) 4 cm C) 6 cm D) 8 cm</p>	<p>37. A</p>
<p>38. Add 50 to each # on the left. New sum = $3775 + (50 \times 50) = 6275$. A) 8775 B) 7550 C) 6275 D) 3825</p>	<p>38. C</p>
<p>39. For fewest "1"s, use 1996 "1"s and 3 "2"s. Their sum is $1996 + 2 + 2 + 2 = 2002$. The least number of "1"s that can be used is 1996. A) 1995 B) 1996 C) 1997 D) 1998</p>	<p>39. B</p>
<p>40. A has 4 sides and 2 diagonals. B has 5 sides and 5 diagonals. C has 6 sides and 9 diagonals. D has 8 sides and 20 diagonals. A) square B) pentagon C) hexagon D) octagon</p>	<p>40. B</p>



The end of the contest 6

Visit our Web site at <http://www.mathleague.com>