

30. If the product of 3 whole numbers is 100, their sum *cannot* be
 A) 14 B) 30 C) 52 D) 102

30.

31. At most how many of the numbers 3, 5, 7, and 8 can be written as a sum of two *primes*?
 A) 3 B) 2 C) 1 D) none

31.

32. Right now, Pat is 8 years younger than Lee. In 5 years, Pat will be half Lee's age. How old is Lee now, in years?
 A) 16 B) 11 C) 5 D) 3

32.



33. 2% of 2% = 4% of ?
 A) 10 B) 1 C) 0.1 D) 0.01

33.

34. A cube with surface area 24 is cut into 8 identical smaller cubes. What is the volume of each of the smaller cubes?
 A) 1 B) 3 C) 6 D) 8

34.

35. If $a^3 \times b^4 \times c^5$ is negative, then ? *cannot* be negative.
 A) a B) c C) both a & c D) both b & c

35.

36. What is the greatest common factor of 4^8 and 8^4 ?
 A) 2^{64} B) 2^{16} C) 2^{12} D) 2^4

36.

37. One day, after Dad bought $\frac{3}{5}$ of the fish that I caught, he gave away $\frac{1}{4}$ of the fish he bought from me. What fraction of the fish that I caught did Dad keep?
 A) $\frac{3}{20}$ B) $\frac{4}{20}$ C) $\frac{7}{20}$ D) $\frac{9}{20}$

37.



38. If a 2-digit number is 5 times its digits' sum, then its digits' product is
 A) 10 B) 20 C) 30 D) 40

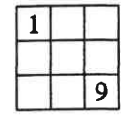
38.

39. How many positive factors of 270 are multiples of 9?
 A) 7 B) 8 C) 29 D) 30

39.

40. How many different paths start at square 1 and end at square 9 if the only two legal moves are moving down one square or moving to the right one square?
 A) 4 B) 6 C) 8 D) 12

40.



2007-2008 Annual 8th Grade Contest

Tuesday, February 19 or 26, 2008



Instructions

- **Time** You will have only 30 minutes working time for this contest. You might be *unable* to finish all 40 questions in the time allowed.
- **Scores** Please remember that *this is a contest, not a test*—and there is no “passing” or “failing” score. Few students score as high as 30 points (75% correct). Students with half that, 15 points, *should be commended!*
- **Format and Point Value** This is a multiple-choice contest. Each answer is an A, B, C, or D. Write each answer in the *Answers* column to the right of each question. A correct answer is worth 1 point. Unanswered questions get no credit. You **may** use a calculator.



The end of the contest 8

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Solutions on Page 99 • Answers on Page 144

1.	10 + 70 + 20 + 60 + 30 + 50 = $80 \times \frac{7}{2}$ A) 3 B) 4 C) 6 D) 10
2.	Of the following, which number is divisible by 2, 4, 8, and 16? A) 1624 B) 2461 C) 3218 D) 4816
3.	$0.05 \times 0.01 = 0.5 \times \frac{1}{2}$ A) 01 B) 0.01 C) 0.001 D) 0.0001
4.	In a triangle with perimeter 1, the average of the side-lengths is A) 1 B) $\frac{1}{2}$ C) $\frac{3}{4}$ D) 3
5.	In a backyard game, if Fido scored 6 points every 12 minutes, then he scored 36 points in $\frac{1}{2}$ hours. A) 1 B) 1.2 C) 1.5 D) 2
6.	If Fido turned 14 years old today, then 100 months ago Fido was $\frac{1}{2}$ years old. A) 4 B) 5 C) 6 D) 7
7.	$\frac{2}{1} \times \frac{2}{1} + \frac{2}{1} \times \frac{2}{1} = \frac{2}{1} \times \frac{2}{1}$ A) $\frac{8}{1}$ B) $\frac{4}{1}$ C) $\frac{2}{1}$ D) 1
8.	5 hundredths + $\frac{1}{2}$ = 100 thousandths A) $\frac{100}{5}$ B) $\frac{100}{20}$ C) $\frac{100}{10}$ D) $\frac{1000}{95}$
9.	Of the following, which number is greater than 0.2008? A) 0.208 B) 0.20 C) 0.0208 D) 0.20008
10.	How many of the angles in a triangle <i>must</i> be acute? A) 0 B) 1 C) 2 D) 3
11.	$\frac{22+2}{2} + \frac{33+3}{3} + \frac{44+4}{4} =$ A) 30+3 B) 33+3 C) 50+5 D) 55+5
12.	Yogi hibernates $\frac{1}{3}$ of $\frac{5}{3}$ of every year. That's $\frac{1}{2}$ % of every year. A) 80 B) 50 C) 40 D) 20
13.	$3^2 + 6^2 + 9^2 = 3^2 \times \frac{1}{2}$ A) 5 B) 6 C) 14 D) 15
14.	My 4-test average is 85. I need a $\frac{1}{2}$ on my 5th test to average 88. A) 91 B) 96 C) 98 D) 100
15.	By which of the following is 333 333 333 divisible? A) 11 B) 33 C) 111 D) 3333



16.	If $4! = 4 \times 3 \times 2 \times 1$, then $\frac{2 \times 3 \times 4}{2! \times 3! \times 4!} =$ A) 1 B) $\frac{4!}{2! \times 3!}$ C) $\frac{2! \times 3!}{2! \times 3! \times 4!}$ D) $2 \times 3 \times 4$
17.	If n is a positive integer, which is <i>never</i> divisible by 5? A) $n+5$ B) $3n+4$ C) $4n+3$ D) $5n+1$
18.	Divide the sum of the first 1000 primes by 2. The remainder is A) 0 B) 1 C) 2 D) 3
19.	Of the following, which is closest in value to its own reciprocal? A) 0.01 B) 0.1 C) 1.01 D) 1.1
20.	Rabbit was asked "What time is it 1234 hours after midnight?" The right time was $\frac{1}{2}$, and it took Rabbit 1234 hours to get the right answer. A) 10 A.M. B) noon C) 10 P.M. D) midnight
21.	If a rectangle has perimeter 24, its area is at most A) 24 B) 25 C) 36 D) 144
22.	No whole-number power of 3 has units' digit A) 1 B) 3 C) 6 D) 9
23.	Which product has the same value as $999\,999^2 - 999\,999$? A) $1\,000\,000 \times 999\,998$ B) $999\,999 \times 999\,998$ C) $999\,999 \times 1$ D) $999\,998 \times 999\,998$
24.	If a rectangle's side-lengths are integers, its perimeter <i>must</i> be A) even B) odd C) prime D) > 4
25.	Of 40 kids, 24 sing, 16 play the drums, and 10 do neither. The ratio of the number who both sing and play the drums to the number who do neither is A) 1:4 B) 3:5 C) 4:5 D) 1:1
26.	In a rodeo, there are 3 horses for every 2 bulls. These animals have 140 hooves altogether. How many bulls are in this rodeo? A) 35 B) 28 C) 21 D) 14
27.	The reciprocal of $\frac{1}{1 - 2\frac{1}{2}}$ is A) $\frac{2}{2+1}$ B) $\frac{2}{2+1}$ C) $\frac{5}{2}$ D) $\frac{2}{5}$
28.	2ℓ of 2% fat milk + 3ℓ of 3% fat milk = 5ℓ of $\frac{1}{2}$ fat milk. A) 2.5% B) 2.6% C) 5% D) 6%
29.	If I start with 2, and begin to count by 3's, my 50th number will be A) 149 B) 150 C) 151 D) 152

