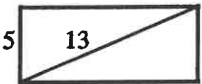



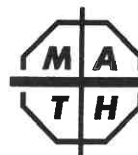


29. A side of rectangle R is 5 cm long, and one of its diagonals is 13 cm long. R 's area is $?$ cm^2 .
A) 34 B) 36 C) 60 D) 65
- 
30. If a square's area is $?$, its area numerically exceeds its perimeter.
A) $\frac{\pi^2}{16}$ B) $\frac{16}{\pi^2}$ C) 4 D) $16\pi^2$
31. Of the following, $?$ has the largest power of 2 as a factor.
A) 18^{36} B) 24^{30} C) 30^{24} D) 36^{18}
32. In any isosceles triangle with a perimeter of 18, the length of the triangle's shortest side *cannot* be
A) 4 B) 5 C) 6 D) 7
- 
33. A circle can intersect a rectangle in at most $?$ points.
A) 8 B) 7 C) 6 D) 4
34. The average measure of two of a right triangle's angles *could* be
A) 30° B) 40° C) 50° D) 90°
35. If $\left(\frac{a}{b}\right)^{-c}$ equals $\left(\frac{b}{a}\right)^c$, then $\left(\frac{2}{3}\right)^{-4} =$
A) $\frac{81}{16}$ B) $\frac{16}{3}$ C) $\frac{3}{16}$ D) $\frac{2}{81}$
36. Divide a circle's area by the square of its circumference to get
A) $\frac{1}{4\pi}$ B) $\frac{1}{4\pi^2}$ C) $\frac{1}{2\pi}$ D) $\frac{1}{4}$
37. Of the integers 1, 2, 3, ..., 2010, how many are divisible by at least one prime less than 2010?
A) 2010 B) 2009 C) 1004 D) 1005
- 
38. The sum of 1024 fours is
A) 4^4 B) 4^5 C) 4^6 D) 4^7
39. If I divide an integer by $?$, the quotient *might* be equivalent to $\frac{24}{42}$.
A) 35 B) 45 C) 55 D) 65
40. The sum of the first 50 of the first 200 positive integers is 1275. What is the sum of the last 50 of the first 200 positive integers?
A) 6275 B) 6600 C) 8375 D) 8775

The end of the contest  **8**

2008-2009 Annual 8th Grade Contest


Tuesday, February 17 or 24, 2009

Instructions

8

- **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.



1.	$2\sqrt{25} - 2\sqrt{16} =$	A) 2 B) 3 C) 4 D) 6
2.	Of the following, which is most nearly equal to 0.55?	A) 0.49 B) 0.509 C) 0.549 D) 0.6
3.	$1 + \frac{3}{1} + 2 + \frac{3}{2} + 3 + \frac{3}{3} =$	A) 9 B) 8 C) 7 D) 6
4.	The greatest factor of $39 \times 49 \times 59$ is	A) 9 B) prime C) even D) odd
5.	99 hundredths - 99 thousandths =	A) 0.891 B) 0.81 C) 0.01 D) 0.001
6.	Of the following fractions, which has the greatest reciprocal?	A) $-\frac{4}{3}$ B) $\frac{6}{5}$ C) $-\frac{8}{7}$ D) $\frac{10}{9}$
7.	If filled identically, 8 dozen recycling containers might contain a total of ? items intended for recycling.	 A) 280 B) 284 C) 288 D) 292
8.	The month that occurs 4000 days after June 1 is	A) April B) May C) June D) July
9.	40% of 30% of 20% of 10% of 0% =	A) 0 B) 100 C) 100% D) 240000%
10.	If a square's perimeter is three-fourths, its area is	A) $\frac{4}{3}$ B) $\frac{16}{3}$ C) $\frac{4}{9}$ D) $\frac{256}{9}$
11.	I got paid for 8 hours of work at a victory party, but the host added 20% as my tip and gave me \$120. My hourly wage, with no tip, was	A) \$10 B) \$12 C) \$12.50 D) \$15
12.	250% has the same value as	A) $\frac{4}{1}$ B) $\frac{5}{2}$ C) $\frac{5}{5}$ D) 25
13.	The least common multiple of 11, 22, 33, and 44 is	A) 66 B) 88 C) 99 D) 132
14.	The average of all the integers from -50 through 51, inclusive, is	A) 0 B) 0.5 C) 1 D) 50

15.	I read twice as many pages each day as I read the day before. If I read my first 2 pages on Sunday, then I read my 100th page on	A) Friday B) Saturday C) Monday D) Tuesday
16.	After Al took 25% of my books and Ed took 50% of the remainder, only 30 of my books remained. How many books did Al take?	A) 15 B) 20 C) 60 D) 80
17.	Of the following, the largest is	A) -0.1 B) $(-10)^3$ C) -100 D) $-\sqrt{100}$
18.	At most $\frac{1}{2} \times 3 \times 6$ bricks fit into a $3 \times 6 \times 8$ space.	A) 1.5 B) 2 C) 3 D) 4
19.	$\frac{1}{2}$ is half as many minutes after 8:15 A.M. as before 3:45 P.M.	A) 4 A.M. B) 10:45 A.M. C) 12 P.M. D) 1:15 P.M.
20.	If the product of two consecutive whole numbers is 600, their sum is	A) 48 B) 49 C) 50 D) 60
21.	If a circle's area is numerically 8 times its circumference, its radius is	A) 2 B) 4 C) 8 D) 16
22.	The first ten numbers of a certain sequence are 1, 2, 2, 3, 3, 3, 4, 4, 4, and 4. The sum of the reciprocals of these ten numbers is	A) 4 B) 3 C) 2 D) 1
23.	If 5 bowls = 2 cups, and 3 mugs = 4 bowls, then 8 cups =	A) 20 mugs B) 16 mugs C) 15 mugs D) 12 mugs
24.	How many different whole numbers are factors of both 24 and 124?	A) 1 B) 2 C) 3 D) 4
25.	My 10 flights cost \$95 each. Your 20 flights cost \$86 each. These 30 flights had an average cost of	A) \$89 B) \$90 C) \$91 D) \$92
26.	$(-1)^2 - (-1)^2 =$	A) -2 B) -1 C) 1 D) 2
27.	$\sqrt{36}$ is half of	A) $\sqrt{18}$ B) $\sqrt{72}$ C) $\sqrt{128}$ D) $\sqrt{144}$
28.	How many two-digit integers are twice the sum of their digits?	A) 4 B) 2 C) 1 D) 0

