

29. $\frac{4}{10}$ of 40 = ?% of 4 A) 16 B) 40 C) 160 D) 400	29.
30. What is the tens' digit of the largest odd factor of 100 000 000? A) 0 B) 2 C) 4 D) 6	30.
31. The sum of 9 consecutive integers is <i>not</i> always divisible by A) 1 B) 3 C) 6 D) 9	31.
32. How many tiles will Rent-A-Kid need to install a single row of square tiles, each with side-length 1, along all 4 edges of the floor in a 12×16 room? A) 52 B) 56 C) 58 D) 60	32.
33. 0.4^2 is less than A) 0.2^2 B) 0.2^3 C) 0.4 D) 0.4^4	33.
34. A triangle with perimeter 8 and integer side-lengths must be A) isosceles B) right C) obtuse D) equilateral	34.
35. If $(1/10)^{100} = 0.00 \dots 1$, then the total number of times that a 0 appears to the right of the decimal point and left of the 1 is A) 98 B) 99 C) 100 D) 101	35.
36. Lance sells 60 bikes each month. If $1/3$ of the racing bikes he sells each month equals $1/12$ of all the bikes he sells each month, how many racing bikes does Lance sell each month? A) 20 B) 15 C) 12 D) 5	36.
37. A square and a circle can have at most ? points in common. A) 2 B) 4 C) 6 D) 8	37.
38. I plan to give a <i>total</i> of 3 (identical) slices of pizza to Ali, Bob, and Carl. Each person will get 0, 1, 2, or 3 slices. In how many different ways can I distribute these 3 slices of pizza? A) 8 B) 9 C) 10 D) 12	38.
39. A <i>perfect square</i> is the square of an integer. Of the integers from 2 through 99, how many have at least one <i>perfect square</i> factor > 1 ? A) 36 B) 38 C) 40 D) 44	39.
40. The three hands of an accurate 12-hour clock make a total of ? complete revolutions around the clock's face every 24 hours. A) 72 B) 733 C) 1466 D) 10 104	40.



2002-2003 Annual 7th Grade Contest

Tuesday, February 18 or 25, 2003

Instructions

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- **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 7

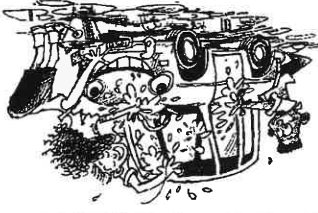
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Solutions on Page 77 • Answers on Page 139

1.	The sum $44\ 444 + 88\ 888$ equals the product $66\ 666 \times \frac{?}{?}$. A) 2 B) 6 C) 20 D) 66 666
2.	The tens' digit of 642 is the double of A) 1 B) 2 C) 3 D) 4
3.	Which sum represents a prime number? A) $243+40$ B) $497+28$ C) $640+42$ D) $720+81$
4.	$202+2002 = 203+2003 - \frac{?}{?}$ A) 1 B) 2 C) 3 D) 4
5.	In the world of dog figure skating, if 2 hops = 1 hop, and 2 hops = 4 hip-hops, then 8 hip-hops = $\frac{?}{?}$ hips. A) 2 B) 4 C) 8 D) 16
6.	$(2+4+6)^2 =$ A) $(1+2+3)^4$ B) $(1+2+3) \times 2$ C) $(1+2+3)^2 \times 4$ D) $2^2+4^2+6^2$
7.	Round 99.99 to the nearest hundredth. A) 100.09 B) 100 C) 99.99 D) 99.1
8.	$(200 \times 300) + (20 \times 30) + (2 \times 3) = (2 \times 3) \times \frac{?}{?}$ A) 111 B) 10 101 C) 60 600 D) 60 606
9.	Each of the following sums is a factor of $33+66+99$ except A) $1+2+3$ B) $3+6+9$ C) $3+3+3$ D) $9+9+9$
10.	The additive inverse of $\frac{3}{1}$ is A) $-\frac{3}{1}$ B) -3 C) $\frac{3}{2}$ D) 3
11.	What is the perimeter of the top of a square pizza box that just manages to hold a circular pizza whose radius is 70 cm? A) 140 cm B) 140π cm C) 280 cm D) 560 cm
12.	$\frac{10}{8} \times \frac{6}{6} \times \frac{4}{4} \times \frac{2}{4} = \frac{10}{8} \times \frac{8}{6} \times \frac{6}{4} \times \frac{4}{2} \times \frac{?}{?}$ A) 1 B) 4 C) 16 D) 25
13.	The average number of grams per burger in a Burger Bash burger is numerically equal to the average number of days per year during the past four years. That number is nearest to A) 365.00 B) 365.25 C) 365.33 D) 365.50
14.	$5 \times \frac{?}{2} = 5 \div \frac{?}{2}$. A) 4 B) 3 C) $\frac{2}{3}$ D) $\frac{3}{1}$

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15.	Of the following numbers, which has the greatest tenths' digit? A) 0.3073 B) 3.073 C) 30.73 D) 307.3
16.	If a diagonal of one square is a side of a second square, then the region in which these two squares overlap is a A) triangle B) square C) rhombus D) rectangle
17.	What percent of the total value of 50 quarters is 50 dimes? A) 10% B) 30% C) 35% D) 40%
18.	$(999 \times 1000) - (999 \times 998) =$ A) $1000+999$ B) $1000+998$ C) $1000-998$ D) $1000-999$
19.	My friends and I each volunteered at a charity car wash from noon until 30 minutes before midnight. We each washed cars for $\frac{?}{?}$ minutes. A) 330 B) 690 C) 1020 D) 1140
20.	$77^2 \times (77 \times 77)^2 =$ A) 77^6 B) $77^2 \times 77^3$ C) $77^2 \times 77^4$ D) 3×77^2
21.	$3 \div 5 \div 7 =$ A) $\frac{35}{3}$ B) $\frac{21}{7}$ C) $\frac{7}{15}$ D) $\frac{5}{21}$
22.	$(1 - \frac{1}{4}) + (1 - \frac{1}{2}) + (1 - \frac{1}{1}) =$ A) $\frac{4}{3}$ B) 1 C) $\frac{2}{3}$ D) 2
23.	The reciprocal of the quotient $(3 \div \frac{6}{1})$ is A) $\frac{3}{1} \times \frac{6}{1}$ B) $\frac{3}{1} \times 6$ C) $3 \times \frac{6}{1}$ D) 3×6
24.	What is the largest multiple of 2 that is a factor of 72? A) 2 B) 8 C) 36 D) 72
25.	If I have \$10 in nickels and you have \$7 in dimes, then I have $\frac{?}{?}$ more coins than you. A) 30 B) 70 C) 130 D) 140
26.	The product of my 3 integers is odd. Their sum must be A) odd B) even C) positive D) negative
27.	$\sqrt{64} - -\sqrt{9} =$ A) $\sqrt{55}$ B) $\sqrt{45}$ C) $\sqrt{25}$ D) $\sqrt{5}$
28.	If $345 \clubsuit 54 = 334 \clubsuit 43$, then \clubsuit could represent A) + B) - C) \times D) \div



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