"Math is Cool" Championships – 2010-11

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5th Grade – March 18, 2011

Individual Contest

GENERAL INSTRUCTIONS applying to all tests:

- *Good sportsmanship is expected throughout the competition by <u>all</u> involved. Bad sportsmanship may result in disqualification.*
- *Calculators or any other aids may not be used on any portion of this contest.*
- *Unless stated otherwise:*
  - *For problems dealing with money, a decimal answer should be given.*
  - *Express all rational, non-integer answers as reduced common fractions.*
- *For fifth and sixth grade, all fractions and ratios must be reduced.*
- *Counting or natural numbers refer to the numbers 1,2,3,4 and so on and do NOT include 0.*
- *Units are not necessary unless it is a problem that deals with time and, in that case, am or pm is needed. However, if you choose to use units, they must be correct.*
- *Leave all answers in terms of π where applicable.*
- *Do not round any answers unless stated otherwise.*
- *Record all answers on the colored cover sheets in the answer column only.*
- *Make sure all answer sheets have all the information filled out at the top of the sheet.*
- *Tests will be scored as a 0 if answers are not recorded correctly on the answer sheets.*
- *Blank answer sheets and answer sheets with no name will also be scored as a 0.*

INDIVIDUAL TEST - *35 minutes*

When you are prompted to begin, tear off the colored sheet and begin testing. Make sure your name and school are recorded on the answer sheet. Each problem is scored as a 1 or 0. Record your answers on the score sheet. No talking during the test. You will be given a 5 minute warning.

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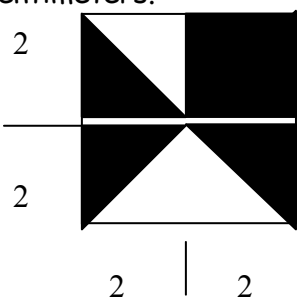
Individual Contest

Record all answers on the colored cover sheet.

	Questions 1-30: 2 points each
1	Find the quotient of 374 and 17.
2	Biff and Eho weigh 225 pounds together. If Biff weighs twice as much as Eho, how many pounds does Eho weigh?
3	What digit is in the thousandths place? 831,429.5076
4	Round this decimal number to the nearest hundredth and leave as a decimal: 231.456
5	Give the letter of the smallest of these numbers: $A = 1.204$ $B = 3.215$ $C = 0.998$ $D = 1.001$
6	Find the sum: $34281 + 19100 + 5678$
7	The number of people traveling per year through Spokane International Airport is expected to triple in the next 20 years. If half a million people went through the Spokane International Airport in the year 2010, how many people would be expected to go through the Spokane International Airport in the year 2030? Write your answer with numerals, not words.
8	Find the difference between 6.7 and 3.29 and express your answer as a decimal.
9	Tealah is going to visit the Statue of Liberty. She is using a coupon worth $2.00 off the price of a ferry ride. She only has to pay $5.00 for the ferry ride. How many dollars does the ferry ride cost without the coupon?
10	When $n = 6$, what is the value of the following expression? $3n - 11$
11	Find the product of 231 and 4.
12	Sally drove 5.5 hours at 70 miles per hour. How many miles did she drive? If your answer is not a whole number, give it as a decimal.
13	The four daughters of the Sampson Family went to the County Fair. For spending money, each child, except the oldest, got 4 dollars less than her next older sister. If the oldest daughter received $20, how many dollars did the youngest daughter receive?
14	A certain whole number can be divided by 5 and by 2 with a remainder of 0. The number is greater than 30 and less than 50. What is the number?
15	The math team bought 1 hour of zip-line riding time. If each ride on a zip-line takes 150 seconds, then how many people can ride the zip-line within the allotted time?
16	Jack is drinking from a rectangular juice box with edge lengths of 3 inches, 5 inches, and 8 inches. Find the volume of the box, in cubic inches.

17	For n^x, the x indicates the number of copies of n that are being multiplied. Give the letter of the largest value (A, B, or C): $A = 5 \times 10^3 \quad B = 9 \times 10^2 \quad C = 4 \times 10^5$
18	Find the sum of all counting numbers that can divide into 18 with no remainder.
19	While writing math questions, David wrote 3 more questions than Tom. Colin wrote 2 fewer questions than Annie. Tom wrote 5 more questions than Annie. Colin wrote 6 questions. How many questions did David write?
20	Find the next number in the sequence: 2, 6, 18, 54, 162…
21	Mitchell draws a single card at random from a standard 52 card deck. What is the probability that he draws a heart or a queen? Give your answer as a reduced fraction.
22	A bunch of people are standing around evenly spaced in a circle. They count off around the circle, starting with 1. Harshini says "14", and the person standing directly across from her says "4". How many people are standing in the circle?
23	Find the area in square centimeters of the shaded portion of the square below. All measurements are given in centimeters. 
24	Tasha has 2 times as many dimes as nickels and 3 times as many pennies as dimes. If she has 10 dimes, then how much money does she have, in dollars?
25	In the land of Pullman there are two types of people, Sumans and Jimmys. Sumans always tell the truth and Jimmys always tell a lie. Four people from Pullman (A, B, C, and D) make one statement each, as given below. Exactly one of the Pullmanites is a Suman. Give the letter of the Suman. A) Person B is a Suman B) I am a Suman C) Both Person A and Person B are Jimmys. D) Person C is a Jimmy
26	Trogdor and Shenron are two dragons who both destroy villages. Trogdor can destroy a village in 2.5 hours while Shenron can destroy a village in 5 hours. If they were to unite their destructive powers, how many MINUTES would it take them working together to destroy a village?
27	If the vertex angle of an isosceles triangle is 50 degrees, what is the degree measure of each of the base angles?
28	If a full jug of water weighs 110 lbs and the same jug half full of water weighs 65 lbs, how many pounds does the empty jug weigh?
29	SpongeBob is rolling three 4-sided dice. If one of his dice shows a "3", what is the most likely sum of all three of his dice?

30	Susan makes 100 cubic centimeters of a mixture of water and oil that is 60 percent water. She pours this mixture into a hollow cube with edge length 6 centimeters. How many centimeters from the bottom of the cube is the line dividing the bottom water layer and the top oil layer after the mixture has settled and completely separated? If your answer is not a counting number, give it as a mixed number or an improper fraction.

Challenge Questions: 3 points each	
31	If I add 6 to my number and then multiply that sum by 6, the result is 42. What is my number?
32	Alice has 2 identical pairs of red shoes and 1 pair of white shoes, where a pair of shoes is one left and one right shoe of the same color. If she draws two shoes at random, what is the probability that she picks a pair? Give your answer as a reduced fraction.
33	At the School of Hard Knocks, there are three sports played: hockey, rugby, and garden ball. Sixty-seven kids at the school play a sport, with a total of 27 kids playing rugby, 31 kids playing hockey, and 41 kids playing garden ball. Twelve play rugby and hockey, 8 play hockey and garden ball, and 17 play garden ball and rugby. How many kids play all three sports?
34	In a certain card game, cards numbered 2 through 10 are worth 2 through 10 points, respectively, as marked. Face cards (jacks, queens, and kings) are worth 11, 13, and 15 points each, respectively, and aces are worth 20 points each. Saul has 2 pairs in his 5-card hand, but not 3-of-a-kind or 4-of-a-kind. What is the difference between the largest and smallest possible total point value of Saul's hand, given that he has at least two face cards?
35	Professor Oak has a Pokémon ranch of only Pikachus, with 1 head and 2 legs, and Doduos, with 2 heads and 2 legs. Out of all the Pokémon on his ranch the total number of heads is 35 and the total number of legs is 54. How many Pikachus are on the farm?
36	A slow clock is set correctly at 8:00 AM, and loses 5 minutes every hour. When the slow clock next reads 7:00 PM, what is the correct time?
37	Molly reads one book every Saturday and one book every Sunday, but does not read books the other days of the week. How many books does Molly read in a non-leap year for which January 1st is on a Saturday?
38	Ginger starts adding the prime numbers in order, starting with the smallest. She checks the sum after each addition. How many prime numbers does she need to add to reach a sum that is a multiple of 3?
39	Two fractions, each in simplest form with denominator not equal to 1, are formed from exactly 4 of the following six digits: 1, 2, 3, 4, 5, 6. No digit is used more than once. What is the greatest possible sum of the two fractions? If your answer is not a whole number, express it as a reduced fraction.
40	The Monster Book of Monsters has 120 pages, numbered from 1 through 120. What is the sum of all the digits of all the page numbers in this book?

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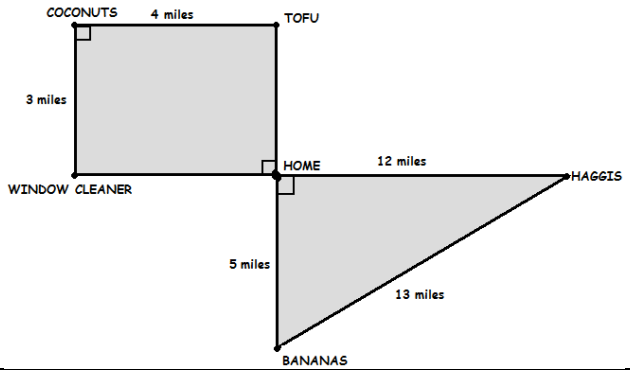
Team Multiple Choice Contest

	USE THIS INFORMATION FOR PROBLEMS #1 - #4. Sir Robin is shopping for a party. The map at right shows the locations of the items he wants to buy. Sir Robin can move only on the lines. The map is not drawn to scale. 
1	Sir Robin goes to buy some haggis and some bananas. He starts from home and ends up at home. He doesn't care which he buys first, the haggis or the bananas. How many miles long is the shortest path he can take for this trip? A) 34 B) 36 C) 30 D) 24 E) 25
2	What is the positive difference, in square miles, between the area of the rectangle (formed by the coconuts, tofu, window cleaner, and Sir Robin's house) and the triangle (formed by his house, the haggis, and the bananas)? (To find the positive difference between two numbers, subtract the smaller number from the larger number.) A) 18 B) 42 C) 30 D) 48 E) 16
3	Starting from his house, Sir Robin roller-skates to get the tofu, coconuts, and window cleaner, and then return home. Next he rides his pony to get the haggis and bananas, and then return home again. If he can roller-skate at 7 miles an hour and ride his pony at 2 miles an hour, how many hours total travel time will it take him to complete these trips? Assume that he goes by the shortest routes, and ignore any time he spends at home or shopping. A) 9 B) 19 C) 9.6 D) 27 E) 17
4	Sir Robin builds a new road straight from his house to the location of the coconuts. Using the new road, how many miles less would a round trip from his house to the coconut shop and back again be than if he took the shortest route using the old roads? A) 1 B) 2 C) 3 D) 4 E) Answer not given

5	Dracula is being chased by his mother. Dracula is running at a constant speed of 40 meters per second. If his mother is running at a constant speed of 60 meters per second and she is 240 meters behind him, in how many seconds will she catch him? A) 4 B) 6 C) 8 D) 10 E) 12
6	Demetrius is standing on a log in the ocean watching spiders and cylcopses float by. If he sees 13 heads and 55 eyes, how many spiders does he see? Assume that each spider has 8 eyes and each cyclops has one eye. A) 5 B) 6 C) 7 D) 8 E) 13
7	Frodo is trying to get to Mordor. There are three different paths he can take to Mordor. From Mordor, he plans to go bowling with his Hobbit friends, and then return to the Shire. There are six paths from Mordor to the bowling alley, and two paths from the bowling alley to the Shire. How many different paths can Frodo take from his starting point to the Shire, going by way of Mordor and then the bowling alley? A) 11 B) 12 C) 18 D) 36 E) 72
8	Sam is struggling in math class. His previous test scores are 60, 29, 47, 16, 78, and 30. What must Sam average on his next four tests if he wants an overall average of 50? A) 59 B) 60 C) 61 D) 62 E) 63
9	A factor is a number that divides evenly into a second number, leaving no remainder. How many counting numbers greater than 130 but less than 200 have an odd number of factors? A) 2 B) 3 C) 4 D) 5 E) 6
10	The midpoints of the sides of an equilateral triangle of area 12 square units are connected. What is the number of square units in the area of the newly created triangle in the middle of the original triangle? A) 1 B) 4 C) 6 D) 9 E) Answer not given

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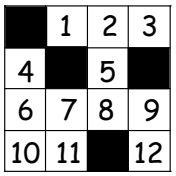
Team Contest

1	A book with 45 pages has pictures on 9 of the pages. What fraction of the pages have no pictures?
2	How many of the following four names could NEVER apply to a polygon with four sides the same length? rectangle, square, rhombus, parallelogram
3	Suzanne adds three different EVEN counting numbers and correctly gets a sum of 106. If the smallest of the three numbers is 14, what is the largest any of the numbers could be?
4	Harshini blackens the smallest possible number of white unit squares in the 4 by 4 square at right to create a figure with a vertical (up and down) line of symmetry, ignoring the numbers. What is the sum of the numbers in the squares that Harshini blackens? 
5	Jimmy eats cookies twice as fast as Mitchell and three times as fast as Freddy. If it takes Mitchell one hour to eat a dozen cookies, how many hours would it take all three boys, eating at these rates at the same time, to eat 110 cookies? If your answer is not a whole number, give it as a mixed number.
6	Suman pays for a magazine costing $2.13 with a $5 bill and gets all his change in U.S. coins. What is the smallest number of coins he could have received? (U.S. coins are penny, nickel, dime, quarter, half-dollar, and dollar.)
7	Tony got a box of chocolates. He ate 5 of them the first day. On the second day, he ate half of what he had left. On the third day, he ate 1/3 of the remaining chocolates. If he ate the last 6 chocolates on the fourth day, how many chocolates were in the box Tony got?
8	Helen is making up arithmetic problems with her favorite number. When she adds 13 to her favorite number, she gets a number that is larger by 54 than the number she gets when she subtracts x from her favorite number. What is x?
9	The sum of the digits of my 2-digit counting number can be divided into my number with no remainder. How many different numbers could I be thinking of?
10	The length of each side of a certain rectangle is a counting number of inches. The total length of three sides of this rectangle is 9 inches. What is the sum of all possible lengths, in inches, of the fourth side of the rectangle?

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Relay Contest

RELAYS - 5 minutes per relay – 15% of team score

There is no talking during this event and you must always be facing forward. Person #1 will be given an answer sheet(s) and will need to fill out the top. The proctor will hand out a strip of paper to each person. These need to be face down on your desk until it is time for the relay to start. Once the relay begins, everyone may turn over their strip of paper and begin working. You may write on the strip of paper to come up with your answer. However, when person #1 figures out his/her problem, he/she will record ***just his/her final answer*** *on the answer sheet and pass only the answer sheet back to the person behind. This continues until person #4 puts an answer on the answer sheet and gives it to the proctor. A correct answer from person #1, #2 and #3 is worth 1 point each. A correct answer from person #4 is worth 2 points making each relay worth 5 points. You will see the expression* ***TNYWG*** [Proctor: write this on the board] *which means: "the number you will get". This is where you put your teammate's answer that they pass back to you, and then you should be able to solve your question. Once the relay begins, turn over your strip of paper and* ***make sure you have the right person number.*** *Remember, no talking and remain facing forward to avoid being disqualified!*

	Practice Relay	Answer
Person 1	Evaluate: 9 + 8 + 7	24
Person 2	What is TNYWG divided by 4?	6
Person 3	What is TNYWG divided by 10?	3/5
Person 4	What is TNYWG times five?	3
	Relay #1	Answer
Person 1	Find the value of $3+4+5$	12
Person 2	What is the product of TNYWG and the probability of rolling an even number on one six-sided die?	6
Person 3	What is the volume, in cubic feet, of a rectangular box with edge lengths of 7 feet, 8 feet, and TNYWG feet?	336 [cu ft]
Person 4	The sum of two numbers is 40 and the product of these two numbers is TNYWG. What is the positive difference between the two numbers?	16
	Relay #2	Answer
Person 1	What is the product of 12 and 20?	240
Person 2	What is the quotient when TNYWG is divided by the area of a rectangle with sides of length 4 units and 6 units?	10
Person 3	When TNYWG is subtracted from the number of ways you can arrange the letters in "MATH", what is the difference?	14
Person 4	What is the sum of the first TNYWG odd positive counting numbers?	196

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Final Score:

KEY

School Name_____Team #_____

Proctor Name_____Room #_____ Division: ____

Mental Math Contest

MENTAL MATH - 30 seconds per question – 25% of team score

PERSON 1 NAME:		**1 or 0**
1.1	What is the perimeter of a rectangle with two sides of length 4 and 13?	34
1.2	How many prime numbers are there less than 25?	9 [num]
1.3	What is the median of the counting numbers from 10 through 20, inclusive?	15
1.4	There were twenty-three students in the classroom. Counting Mrs. Johnson, the teacher, there are twice as many females in the classroom as males. How many boys are in the class?	8
PERSON 2 NAME:		
2.1	Fill in the blank for the following sequence of numbers: 3, 6, 12, blank, 48	24
2.2	I multiplied three copies of a number together and got a result of 64. What is the number?	4
2.3	What number when averaged with twenty-three gives an answer of thirty-one and a half?	40
2.4	What is the range of the numbers: 4, 6, 8, 9, 10, 10, 12, and 14?	10
PERSON 3 NAME:		
3.1	What number needs to be added to 33 to get a result of 178?	145
3.2	Four times my number plus seven equals twenty-seven. What is my number?	5
3.3	What is the largest counting number length the side of a triangle can be if the other two sides are 4 and 11?	14 [units]
3.4	What is sum of the integers from negative five through positive seven, inclusive?	13
PERSON 4 NAME:		
4.1	Find the sum of the counting numbers from one through ten, inclusive.	55
4.2	Marcie rolls two fair six-sided dice. What is the probability, as a reduced fraction, that both dice show the same number?	1/6
4.3	What is the sum of the two numbers that are five units away from the number "3" on the number line?	6
4.4	Johnny took 10 minutes riding his bike to school, which is two miles away. What was Johnny's average speed in miles per hour?	12 [mph]

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COLLEGE KNOWLEDGE BOWL ROUND #1 – SET 1

#	Problem	Answer
1	Eho's goat eats three coconuts every four hours. How many coconuts will his goat eat over the course of one week?	126 [coconuts]
2	Biff's test scores are 33, 58, 25, 60, and 49. What is the positive difference between the mean and the median of his scores?	4
3	Alice has six thousand three hundred forty-one dollars. Beth has four times as many dollars as Alice. How many dollars does Beth have?	25364 [dollars]
4	What is one-third of one-half of one-fourth of one thousand five hundred sixty?	65
5	At a math contest, there are four teams. Each team plays one College Bowl round against each other team. How many College Bowl rounds are played?	6 [rounds]
6	How many MINUTES is it from 3:23 PM to 5:44 PM on the same day?	141 [minutes]
7	Forty percent of the cupcakes in Barbara's collection are chocolate. What percent of Barbara's cupcakes are not chocolate?	60 [percent]
8	Richard decides to buy twelve fish. He has an aquarium with dimensions of nine by five by twelve inches. Each fish takes up six cubic inches of space. How many cubic inches of water will Richard need to fill up his aquarium completely when he has added his fish?	468 [cubic in]
9	Name all the prime numbers on the following list: twenty-one, thirty-six, forty-three, fifty-one	43
10	In an animal shelter, the ratio of cats to dogs is five to two. How many more cats are there than dogs, if the total number of cats and dogs is eighty four?	36 [more cats]

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COLLEGE KNOWLEDGE BOWL ROUND #2 - SET 2

#	Problem	Answer
1	What is one point two zero minus zero point three four? Answer as a decimal.	0.86 or .86
2	Sally went to the Frisbee Store with twenty dollars. Frisbees cost one dollar and twenty cents each. What is the largest number of Frisbees Sally can buy?	16 [Frisbees]
3	A six meter by eight meter rectangular pool is bordered by a rectangular walkway with a width of one meter. What is the outer perimeter of the walkway, in meters?	36 [units]
4	In square units, what is half the area of a square with a side length of eight units?	32 [sq. units]
5	How many sides does a pentagon have?	5 [sides]
6	I have three quarters, two dimes, and five pennies in my pocket. How many ten-cent lizards can I buy?	10 [lizards]
7	One grey cat is equal in value to two orange cats. An orange cat is equal to three white cats. How many white cats are equal to four grey cats?	24 [white cats]
8	There are 99 bottles of water on the wall. Jimmy takes one down, passes it around, and then throws it against the wall, causing half of the remaining bottles to fall down. How many bottles are still on the wall?	49 [bottles]
9	Evaluate: one-half times three-fifths divided by five-fourths.	6/25
10	Amy calculates the value of two raised to the third power. Bob calculates the value of four raised to the second power. What is Amy's answer divided by Bob's answer? If your answer is not a whole number, express it as a fraction.	1/2

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COLLEGE KNOWLEDGE BOWL ROUND #3 - SET 3

#	Problem	Answer
1	Terry the Termite gains two pounds for every fifty trees he eats. How many pounds will Terry gain after eating 250 trees?	10 [pounds]
2	What is the largest whole number you could add to 738 to produce a sum less than 1000?	261
3	A rectangular mat is six feet by eleven feet. The mat has a blue rectangular patch in its center that is three feet by two feet. In square feet, what is the area of the mat that is NOT covered by the blue patch?	60 [sq. feet]
4	In Diagram Park, there are three kinds of trees. One-fifth of the trees in the park are spruce trees, one-fifth are Douglas firs, and fifteen trees are pines. How many trees are in Diagram Park?	25 [trees]
5	Convert zero point one two five to a reduced fraction.	1/8
6	Billy spent three dollars and twenty-five cents on his school lunch and had eleven dollars and seventy-five cents left over. How many dollars did he have to start with?	15 [dollars]
7	If four minus X equals twelve, what is X?	-8 [negative 8]
8	Find the sum of all the factors of the number twelve.	28
9	When the fraction twenty-eight over forty-two is fully reduced, what will be the sum of the numerator and the denominator?	5
10	Simba is five times as old as Tigger. In six years, Simba will be twice as old as Tigger. How many years old is Simba now?	10 [years]

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COLLEGE KNOWLEDGE BOWL ROUND #4 - SET 4

#	Problem	Answer
1	How many counting numbers will divide into 16 with no remainder?	5 [numbers]
2	The area of a rectangle is 144 square inches. If the width of the rectangle is three inches, what is the length of the rectangle, in inches?	48 [inches]
3	What is the difference between the perimeter of a regular pentagon with side length ten units and the perimeter of a regular octagon with side length three units?	26 [units]
4	Convert two and three-fifths to an improper fraction.	13/5
5	How many feet are in 31 yards?	93 [feet]
6	Buddy is picking flowers. In the first minute, he picks one flower. In the second minute he picks two flowers, in the third minute he picks four flowers, and in the fourth minute he picks eight flowers. If he continues this pattern for a total of ten minutes, how many flowers would he have picked?	1023 [flowers]
7	Find the largest number that will divide evenly into both sixty and thirty-six.	12
8	How many lines of symmetry does a square have?	4 [lines of symmetry]
9	One a sheet of graph paper, Jane colors in unit squares to make a design with every square size from one-by-one through ten-by-ten units. How many unit squares does Jane color?	385 [tiles]
10	Georgia bought three hacksaws and four hats. Georgia paid six dollars and twenty-seven cents for her hacksaws and twelve dollars and thirty-two cents for her hats. How many more CENTS does one hat cost than one hacksaw?	99 [cents]

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COLLEGE KNOWLEDGE BOWL ROUND #5 - SET 5

#	Problem	Answer
1	What is the number of units in the perimeter of a triangle with sides of length four, three, and six units?	13 [units]
2	Betty's Bakery sells cinnamon rolls for seven dollars each and charges thirteen dollars for a delivery. How many dollars would it cost to get six cinnamon rolls by delivery?	55 [dollars]
3	What is the seventh number in the sequence 3, 7, 11, and so on?	27
4	Frank has twelve quarters in his pocket. If he exchanges all his quarters for nickels, how many nickels should he receive?	60 [nickels]
5	Chopin wrote one hundred twenty-one sonatas for piano. Three-elevenths of them are in the key of A-flat minor. How many of those sonatas are NOT in A-flat minor?	88 [sonatas]
6	Jill sold 90 ice cream cones in 5 hours. What was the average number of ice-cream cones Jill sold per hour?	18 [ice cream cones per hour]
7	Inside a bag of M&Ms candy are four red M&Ms, three yellow M&Ms, six brown M&Ms, and seven green M&Ms. If one M&M is drawn at random, what is the probability that it is neither red nor green? Answer as a reduced fraction.	9/20
8	If three trucks can haul twelve tons of gravel, how many trucks will it take to haul twenty tons of gravel?	5 [trucks]
9	In a field there are ten cows, all wearing either sunglasses or hats or both. Six cows are wearing sunglasses and seven cows are wearing hats. How many cows are wearing both sunglasses and hats?	3 [cows]
10	Cookie Monster has five cookie jars, each with forty-five cookies. If Cookie Monster eats three cookies a day, how many days will it take him to eat two-thirds of his cookies?	50 [days]

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COLLEGE KNOWLEDGE BOWL ROUND #6 - SET 6

#	Problem	Answer
1	A vase has two red marbles, five blue marbles, three yellow marbles, and four green marbles. If one marble is drawn at random, what is the probability that it is green? Answer as a reduced fraction.	2/7
2	Annie drove one hundred seventy miles and used five gallons of gas. How many miles per gallon did she get on her trip?	34 [miles per gallon]
3	Tatum and Taylor are identical twins. The probability that someone mixes up their names is eleven-twentieths. What is the probability that someone does NOT mix up their names?	9/20
4	Simplify the fraction: thirty-two over one hundred forty four.	2/9
5	What is the product of seven hundred eighty-three times twenty three?	18009
6	Kyle's square bathroom has a side length of twelve feet. He has tiles that are 18 inches by 6 inches. How many tiles does he need to completely tile his bathroom?	192 [tiles]
7	Starting at the top of page fifty-two, Lisa read through page sixty-seven of her math book. How many pages did she read?	16 [pages]
8	Subtract the product of zero point five and one point seven nine from the number two point six nine five. Answer as a decimal.	1.8
9	What is the area in square units of a square with side length nine units?	81 [sq units]
10	What percent of two hundred is equal to thirty percent of six hundred?	90 [percent]

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COLLEGE KNOWLEDGE BOWL ROUND - EXTRA

#	Problem	Answer
1	How many counting numbers are between three point five and eleven point two?	8 [numbers]
2	Hiking trail A is zero point seven five miles long, trail B is seven-eighths of a mile long, and trail C is two-thirds of a mile long. Give the letter of the longest hiking trail.	B
3	How many two-digit square numbers are there?	6 [square numbers]

"Math is Cool" Championships – 2010-11

5th Grade – March 18, 2011

School Name_____Team #_____

Proctor Name_____Room #_____Division: _____

Final Score:

KEY

First Score

(out of 20)

Team Multiple Choice Contest – 15 minutes – 20% of team score

This test is the only test where you will be penalized for incorrect responses. You will receive 2 points for a correct letter response, 0 points for leaving it blank and -1 point for an incorrect response. When you are prompted to begin, tear off the colored sheet, pass out a copy of the test to each team member, and begin testing. ***Since this is a multiple choice test, ONLY a letter response should be listed as an answer on the answer sheet.***

Correct responses are worth 2 points, incorrect responses are worth -1 point and no response is 0 points.

DO NOT WRITE IN SHADED REGIONS

Answer		-1, 0 or 2	-1, 0 or 2
1	C		
2	A		
3	E		
4	D		
5	E		
6	B		
7	D		
8	B		
9	B		
10	E [3]		

"Math is Cool" Championships – 2010-11

5th Grade – March 18, 2011

School Name_____Team #_____

Proctor Name_____Room #_____Div: _____

Final Score:

KEY

First Score

(out of 10)

Team Contest – Score Sheet – 15 minutes – 30% of team score

When you are prompted to begin, tear off the colored sheet and give a copy of the test to each of your team members and begin testing. Each problem is scored as a 1 or 0. Record all answers on the colored answer sheet.

DO NOT WRITE IN SHADED REGIONS

	Answer	1 or 0	1 or 0
1	4/5		
2	0 [names]		
3	76		
4	23		
5	$2\frac{1}{2}$ [hrs]		
6	7 [coins]		
7	23 [chocolates]		
8	41		
9	23 [numbers]		
10	16 [inches]		

"Math is Cool" Championships -- 2010-11

KEY

5th Grade – March 18, 2011

School:_____Team #_____

Proctor: _____ Room #_____Div _____

PRACTICE RELAY

Answer for person # 1	Answer for person # 2	Answer for person # 3	Answer for person # 4
24	**6**	**3/5**	**3**
1 or 0	1 or 0	1 or 0	2 or 0

RELAY # 1

Answer for person # 1	Answer for person # 2	Answer for person # 3	Answer for person # 4
12	**6**	**336 [ft^3]**	**16**
1 or 0	1 or 0	1 or 0	2 or 0

RELAY # 2

Answer for person # 1	Answer for person # 2	Answer for person # 3	Answer for person # 4
240	**10**	**14**	**196**
1 or 0	1 or 0	1 or 0	2 or 0

"Math is Cool" Championships – 2010-11

March 18, 2011

Final Score: 1-15	Final Score: 16-30	Final Score: 31-40
KEY	KEY	KEY

STUDENT NAME: _____ **School Name:** _____

Proctor Name: _____ Team #: _____ Room #: _____

5th Grade Individual Contest – Score Sheet

DO NOT WRITE IN SHADED REGIONS

	Answer	1 or 0	1 or 0
1	22		
2	75 [pounds]		
3	7		
4	231.46		
5	C		
6	59059		
7	1,500,000 [people]		
8	3.41		
9	[$] 7 or 7.00		
10	7		
11	924		
12	385 [miles]		
13	[$] 8		
14	40		
15	24 [people]		
1-15 TOTAL:			

	Answer	1 or 0	1 or 0
16	120 [cubic in]		
17	C		
18	39		
19	16 [questions]		
20	486		
21	4/13		
22	20 [people]		
23	10 [sq. cm]		
24	[$] 1.55		
25	C		
26	100 [minutes]		
27	65 [degrees]		
28	20 [lbs]		
29	8		
30	$\frac{5}{3}$ or $1\frac{2}{3}$ [cm]		
16-30 TOTAL:			

	Answer	1 or 0	1 or 0
31	1		
32	1/3		
33	5 [kids]		
34	54 [points]		
35	19 [pikachus]		
36	8:00 PM		
37	105 [books]		
38	10 [primes]		
39	23/6		
40	1023		
31-40 TOTAL:			

5th Grade

"Math is Cool" Championships – 2010-11

March 18, 2011

Final Score: 1-15	Final Score: 16-30	Final Score: 31-40
KEY	KEY	KEY

STUDENT NAME: _____ **School Name:** _____

Proctor Name: _____ Team #: _____ Room #: _____

5th Grade Individual Contest – Score Sheet

DO NOT WRITE IN SHADED REGIONS

	Answer	1 or 0	1 or 0
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
1-15 TOTAL:			

	Answer	1 or 0	1 or 0
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
16-30 TOTAL:			

	Answer	1 or 0	1 or 0
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
31-40 TOTAL:			

5th Grade