# "Math is Cool" Championships – 2016-17

March 10, 2017

Total Correct

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 | 3,250 | | |
| 2 | 5,354,122 | | |
| 3 | 647 | | |
| 4 | 21 | | |
| 5 | [$]8.02 | | |
| 6 | [n=] 0 | | |
| 7 | 5,200,104 | | |
| 8 | 224 [feet] | | |
| 9 | [$]46,800 | | |
| 10 | 1/6 | | |
| 11 | 3/4 | | |
| 12 | 8/15 | | |
| 13 | 1, 2, 4, 7, 14, 28 | | |
| 14 | 23 [sledge-hammers] | | |
| 15 | [w=] 604 | | |
| **1-15 TOTAL:** | | | |

| | Answer | 1 or 0 | 1 or 0 |
|---|---|---|---|
| 16 | 0, $\frac{1}{2}$, 1, 3 | | |
| 17 | [w=] 12 | | |
| 18 | [$]3.15 | | |
| 19 | [n=] 15 | | |
| 20 | 101 [years] | | |
| 21 | 1, 2, 5, 10 | | |
| 22 | 20 | | |
| 23 | 2 | | |
| 24 | 12 [°C.] | | |
| 25 | 41 [points (per game)] | | |
| 26 | [$]0.82 | | |
| 27 | 1412 [miles] | | |
| 28 | -4 | | |
| 29 | [$]98.79 | | |
| 30 | 36 | | |
| **16-30 TOTAL:** | | | |

| | Answer | 1 or 0 | 1 or 0 |
|---|---|---|---|
| 31 | 44 [parrots] | | |
| 32 | 81 [%] | | |
| 33 | 16 | | |
| 34 | 7 [pirates] | | |
| 35 | 4 [horses] | | |
| 36 | 44 [minutes] | | |
| 37 | 2, 41 | | |
| 38 | 17 [feet] | | |
| 39 | [$]363 | | |
| 40 | [$]503 | | |
| **31-40 TOTAL:** | | | |

5th Grade

| Total Correct |
|---|
| |

# "Math is Cool" Championships – 2016-17

March 10, 2017

**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

# "Math is Cool" Championships – 2016-17

Sponsored by:

March 10, 2017

5th Grade Mental Math Contest

## Follow along as your proctor reads these instructions to you. Your Mental Math score sheet is on the back.

### GENERAL INSTRUCTIONS applying to all tests:

- *Good sportsmanship is expected throughout the competition by all 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.*

## Mental Math – 30 sec per question

**8 problems read orally to everyone - Approximately 8% of Individual Score - 25% of team score**

*You may NOT be seated next to anyone from your school. If you are MOVE NOW to avoid being disqualified! When it is time to begin, the proctor will read the first question twice. You may not do any writing or talking while arriving at a solution. Once you have a solution, record it on the sheet in front of you.* ***You may not change or cross out answers once you have written an answer down. If there are eraser marks, write-overs, or crossed-out answers, they will be marked wrong.*** *Once all students have laid their pencils on the desk, another question will be asked. If a student doesn't lay his/her pencil down, the maximum wait time is 30 seconds after completion of the second reading of the question before another question is asked. You may continue to work on a problem while the next question is being read. The value of each question is a one or zero. Each student will be asked the same eight questions. Individual scores used to determine individual placing will be determined by the sum of the Mental Math score and the Individual Test score for each individual. In addition, the top three Mental Math scores from one team will be totaled and doubled and will contribute to 25% of the team score.*

# "Math is Cool" Championships – 2016-17

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5th Grade – March 10, 2017

Mental Math Contest

## Mental Math – 30 sec per question

**8 problems read orally to everyone - Approximately 8% of Individual Score - 25% of team score**

*You may NOT be seated next to anyone from your school. If you are MOVE NOW to avoid being disqualified! When it is time to begin, the proctor will read the first question twice. You may not do any writing or talking while arriving at a solution. Once you have a solution, record it on the sheet in front of you.* ***You may not change or cross out answers once you have written an answer down. If there are eraser marks, write-overs, or crossed-out answers, they will be marked wrong.*** *Once all students have laid their pencils on the desk, another question will be asked. If a student doesn't lay his/her pencil down, the maximum wait time is 30 seconds after completion of the second reading of the question before another question is asked. You may continue to work on a problem while the next question is being read. The value of each question is a one or zero. Each student will be asked the same eight questions. Individual scores used to determine individual placing will be determined by the sum of the Mental Math score and the Individual Test score for each individual. In addition, the top three Mental Math scores from one team will be totaled and doubled and will contribute to 25% of the team score.*

| # | Problem |
|---|---|
| 1 | What is one hundred minus seventy-five? |
| 2 | What is (one thousand, one hundred) plus (five hundred fifty)? |
| 3 | What is (four point seven) times ten? |
| 4 | What number is one-half of two hundred thirty? |
| 5 | In one day an elephant ate 83 kilograms of hay, 7 kilograms of apples, and 10 kilograms of leaves. How many kilograms of food did it eat in all? |
| 6 | If 203 carrots are to be shared equally among 7 horses, how many carrots should each horse receive? |
| 7 | What is the total price, in dollars, of one dozen ears of corn that cost twenty-five cents each? |
| 8 | Solve: (three thousand, six hundred four) plus (five thousand, one hundred eighty-six) plus (seven thousand, one hundred forty-five). |

# “Math is Cool” Championships – 2016-17

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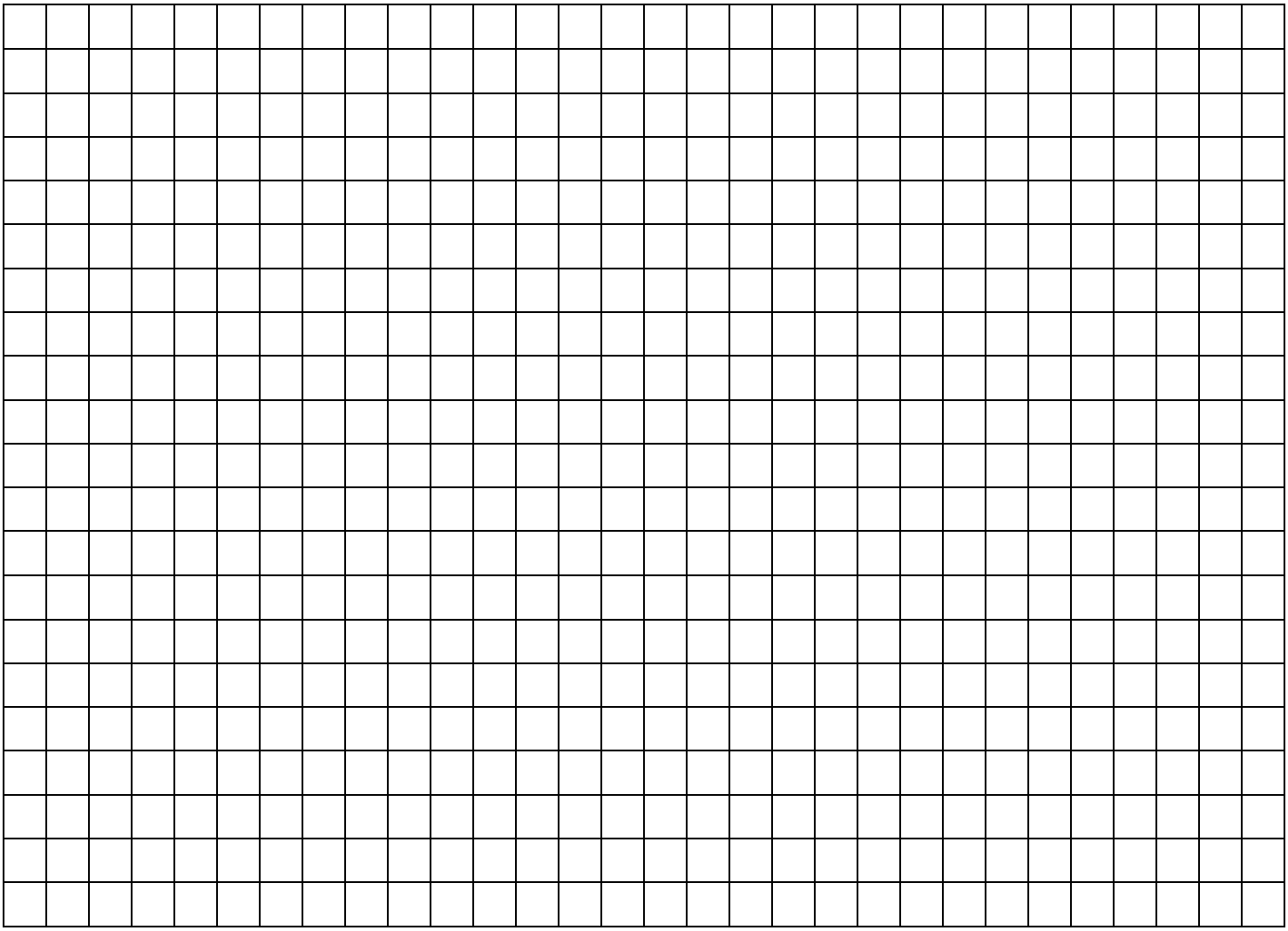
Individual Contest – 5th Grade

**Tear this cover sheet and scratch paper off and fill out the top of the colored answer sheet prior to the start of the test. The graph below is for your use, if needed.**

**INDIVIDUAL TEST - 35 minutes**

*You may NOT be seated next to anyone from your school. If you are MOVE NOW to avoid being disqualified! 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. The raw score will be 2 points for correct answers to problems 1-30 and 3 points for 31-40. Record your answers on the score sheet. No talking during the test. You will be given a 5 minute time warning.*



# "Math is Cool" Championships – 2016-17

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5th Grade – March 10, 2017

Individual Contest

Record all answers on the colored cover sheet.

| | Questions 1-30: 2 points each |
|---|---|
| 1 | Evaluate: 2,000 + 1,250 |
| 2 | Write out using numbers: five million, three hundred fifty-four thousand, one hundred twenty-two. |
| 3 | Evaluate: 6.47 x 100 |
| 4 | Evaluate: 1,010 – 989 |
| 5 | Evaluate: $20 - $11.98 |
| 6 | Solve for n: 365 - n = 365 |
| 7 | Use digits to write five million, two hundred thousand, one hundred four. |
| 8 | A tree was 13 feet tall. Many years later it was 237 feet tall. How many feet did it grow? |
| 9 | When Biff turns 39, his employer will pay him $3,900 each month. How much will he make in a year? |
| 10 | Which is larger: $\frac{1}{8}$ or $\frac{1}{6}$? |
| 11 | An orange was cut into 4 equal slices. One slice was quickly eaten. What fraction of the orange was left? |
| 12 | There are 16 girls in a class of 30 students. What fraction of the class is made up of girls? |
| 13 | List all the whole numbers that are factors of 28. |
| 14 | Bob figured that the sledge-hammers on the rack weighed a total of 230 pounds. How many 10 pound sledge-hammers weigh a total of 230 pounds? |
| 15 | Solve for w: w - 76 = 528 |
| 16 | Arrange these numbers from least to greatest: $\frac{1}{2}$, 3, 1, 0 |
| 17 | Solve for w: w ÷ 3 = 4 |
| 18 | Evaluate: $5 - ($1.25 + $0.60) |
| 19 | Solve for n: 6n = 90 |
| 20 | In 1787 Delaware became the first state. In 1889 Washington became the forty-second state admitted to the Union. Not counting 1787 nor 1889, how many years were between these two events? |
| 21 | What whole numbers are factors of both 20 and 30? |
| 22 | What is the greatest common factor of 20, 40, and 60? |

| | |
|---|---|
| 23 | Which digit in 123,456,789 is in the ten-millions place? |
| 24 | The morning temperature was -5 °C. By evening it had warmed to 7 °C. How many degrees had the temperature risen? |
| 25 | In three basketball games, Thomas scored 31, 52 and 40 points. What was the average number of points Thomas scored per game? |
| 26 | How much money is 1/4 of $3.28? |
| 27 | In four days of vacation, the Johnson family drove 346 miles, 417 miles, 289 miles, and 360 miles. How many miles did they drive in all? |
| 28 | What number is 6 less than 2? |
| 29 | Evaluate: $3.64 + $94.28 + $0.87 |
| 30 | What is the next number in the following sequence?<br>1, 4, 9, 16, 25, _____ |

| Challenge Questions: 3 points each | |
|---|---|
| 31 | Twelve pirates are lined up and put in the pillory. If every third pirate has 3 parrots on his pillory, and the rest each have 4 parrots on his pillory, how many total parrots are on these pirates? |
| 32 | Gregg has some candy bars. On the first day, he eats 10% of them. On the second day, he eats 10% of the remaining candy bars. What percentage of his original amount of candy bars does he have left after 2 days? |
| 33 | Let A, B, C, D, and E stand for 5 numbers (which may be the same or different). The average (mean) of these five numbers is 13, and the average of C, D, and E is 11. What is the average of A and B? If your answer is not a whole number, give it as a fraction. |
| 34 | There are ten bearded pirates lined up to walk the plank (three black-beards, four red-beards, and the rest blue-beards). The pirates walk the plank one by one, at random, without any returning. What is the least number of pirates that must walk the plank to guarantee that three of them have the same colored beard? |
| 35 | Gregg has <u>exactly</u> enough money to buy 36 cats OR 15 dogs OR 10 horses. All animals of one type cost the same. Gregg buys 11 cats, 4 dogs, and some horses. What is the largest number of horses he can buy? |
| 36 | If one pirate can swab down the deck in 33 minutes, how many minutes would it take 3 pirates to swab down 4 decks? |
| 37 | Molly added what she thought were the first 13 prime numbers, and got 285 as the sum. Actually, she mistakenly added 11 of the first 13 primes, plus the $14^{th}$ and $15^{th}$ primes. Which prime numbers did she leave out? |
| 38 | Thirty Math Team members are sitting randomly around a large round table practicing math. It is known that Robert and Bill are sitting directly across from each other. Josh is 15 feet away from Bill, and 8 feet away from Robert. How many feet are Robert and Bill away from each other? |
| 39 | Cool calculators for Mathletes cost $15 and all other calculators cost $6. Gregg went to the store and bought at least one of each kind. If he switched the number of each kind of calculator he bought around, he would have spent $87. What is the sum of all amounts he could have spent? |
| 40 | Marvin bought a pencil for $1, and sold it to Frank for $2. Marvin then bought it from Frank for $3, and sold it to Keith for $4. Marvin then bought it from Keith for $5, and sold it to Robert for $8. Marvin then bought it from Robert for $9, and sold it to John for $16. Marvin then bought it from John for $17, and sold it to Calvin for $32. How much, in dollars, will Marvin have profited from all these transactions, if the pattern continues; if he sells it for the last time for $512? |

# "Math is Cool" Championships – 2016-17

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5th Grade – March 10, 2017

Team Multiple Choice Contest

| | |
|---|---|
| 1 | If you had a billion dollars, how much more money would you need to have a trillion dollars?<br>A) 9 billion<br>B) 999,000,000<br>C) 99 billion<br>D) 999,999,999,999<br>E) 999 billion |
| 2 | Biff weighs 173 pounds. How many ounces is that?<br>A) 692<br>B) 1384<br>C) 1730<br>D) 2768<br>E) Answer not given |
| 3 | Which one of these is the smallest number?<br>A) 1/3<br>B) 2/7<br>C) 3/9<br>D) 3/10<br>E) 5/17 |
| 4 | Which one of these gives the largest answer?<br>A) 6 + 5 – 4 x 3 ÷ 2<br>B) (6 + 5) – 4 x 3 ÷ 2<br>C) 6 + (5 – 4) x 3 ÷ 2<br>D) 6 + 5 – (4 x 3) ÷ 2<br>E) 6 + 5 – 4 x (3 ÷ 2) |
| 5 | How many lines of symmetry does a circle have?<br>A) 0<br>B) 1<br>C) 2<br>D) 4<br>E) Answer not given |

| | |
|---|---|
| 6 | What is the radius of a circle with diameter 5 units?<br>A) 2.5<br>B) 5<br>C) 10<br>D) 25<br>E) Answer not given |
| 7 | What is the distance AC of square ABCD, with side length of 1 unit?<br>A) $\sqrt{1}$<br>B) 1<br>C) $\sqrt{2}$<br>D) 2<br>E) Answer not given |
| 8 | What is the side length of a square with area 0.9 square units?<br>A) 3 / 10<br>B) 300,000 / 316,228<br>C) 3 / (10/3)<br>D) 9<br>E) Answer not given |
| 9 | What is the area in square units of a rectangle that is 2.1 units in width and 1.5 units in length?<br>A) 3.15<br>B) 3.5<br>C) 3.6<br>D) 7.2<br>E) Answer not given |
| 10 | Put the following four numbers in order of increasing size (smallest first).<br>W = the actual number answer to problem 6<br>X = the actual number answer to problem 7<br>Y = the actual number answer to problem 8<br>Z = the actual number answer to problem 9<br>A) XZYW<br>B) XWYZ<br>C) YWZX<br>D) YXWZ<br>E) Answer not given |

# "Math is Cool" Championships – 2016-17

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5th Grade – March 10, 2017

Team Contest

| | |
|---|---|
| | Use the following information to solve problems 1-10.<br>A = (12 x 12) - (11 x 13)<br>B = (6 + 18 + 9) ÷ 3<br>C = 20 ÷ (5 x 2)<br>D = 1,000 – 87<br>E = 7 – 2 - 1<br>F = 196 ÷ 28<br>G = 365 + 265<br>H = 1 + 8 - 4<br>I = 3 – 2 + 1 – 3 + 2 + 1<br>J = 506 x 370<br>K = (123,456 x 7,890) ÷ (7,890 x 123,456)<br>L = (8 + 1) ÷ 3<br>M = 14,009 – 9,670<br>N = 17 ÷ 1700<br>O = 17 – 14 + 7<br>P = 800 - (450 - 125)<br>Q = 16 ÷ 2 ÷ 2 ÷ 2<br>R = 7 + 6 – 5 + 4 – 3 + 2 - 1<br>S = 14,000 – 12,000 + 1,000 – 2,900 + 90 – 70 + 3 – 123<br>T = 12 + 13<br>U = 7 – 6 + 5 – 4 + 3 – 2 + 1<br>V = 4 ÷ 160<br>W = (1234 + 1423) ÷ 2657<br>X = 56 ÷ 8<br>Y = 144 ÷ 12<br>Z = 3 + 2<br><br>When two letters are next to each other, with no operation symbol, it means that you should multiply them together. For example, MATH would be: (M times A times T times H). Solve the following problems with this in mind. |
| 1 | A |
| 2 | QUICK |
| 3 | BROWN |
| 4 | FOX |
| 5 | JUMPS |
| 6 | OVER |
| 7 | THE |
| 8 | LAZY |
| 9 | DOG |
| 10 | $\frac{(A + QUICK + BROWN + FOX)\, JUMPS}{(THE + LAZY + DOG)}$ |

# "Math is Cool" Championships – 2016-17

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5th Grade – March 10, 2017

# Robert Dirks' Relay Contest – Questions & Key

**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 | What is 24 + 12? | 36 |
| Person 2 | What is TNYWG divided by 6? | 6 |
| Person 3 | What is TNYWG minus 4? | 2 |
| Person 4 | What is TNYWG times TNYWG times TNYWG? | 8 |
| | **Relay #1** | Answer |
| Person 1 | What is (51 + 49) x (51 - 49)? | 200 |
| Person 2 | What is TNYWG ÷ 25 x $\frac{1}{2}$? | 4 |
| Person 3 | What is 19 - (8 + TNYWG)? | 7 |
| Person 4 | What is the place value of TNYWG in 987,654,321? | millions |
| | **Relay #2** | Answer |
| Person 1 | Find the missing term in the following sequence. 1, 2, 4, ___, 16, 32, 64 | 8 |
| Person 2 | What is the sum of the first TNYWG positive even numbers? | 72 |
| Person 3 | Solve for y: 6 + 12 + 17 + 21 + y = TNYWG | [y=] 16 |
| Person 4 | There are TNYWG girls in a class of 30 students. What fraction of the class is made up of boys? | 7/15 |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND #1 – SET 1

| # | Problem | Answer |
|---|---|---|
| 1 | Round four hundred fifty-six thousand, one hundred twenty-three to the nearest hundred thousand. | 500,000 |
| 2 | What is the place value of the seven in the number: nine hundred eighty-seven thousand, six hundred fifty-four? | thousands |
| 3 | What is the length of a regular triangle's side whose perimeter is eighteen inches? | 6 [inches] |
| 4 | What is the quotient when you divide forty-eight thousand, eight hundred forty by twenty-four? | 2035 |
| 5 | There are nineteen girls in a class of thirty students. What fraction of the class is made up of girls? | 19/30 |
| 6 | What number is three-fourths of one thousand, one hundred? | 825 |
| 7 | What is the greatest common factor of twelve and sixteen? | 4 |
| 8 | What is six hundred seventy-eight divided by six? | 113 |
| 9 | What is three multiplied by seventy-six? | 228 |
| 10 | What is sixty-four plus nineteen? | 83 |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND #2 – SET 2

| # | Problem | Answer |
|---|---|---|
| 1 | What is the quotient when you divide four thousand, three hundred by one hundred? | 43 |
| 2 | Which digit in the number "nine million, eight hundred seventy-six thousand, five hundred forty-three" is in the ten-thousands place? | 7 |
| 3 | A rectangle is five centimeters long and three centimeters wide. What is its perimeter? | 16 [cm] |
| 4 | The perimeter of a square is one hundred centimeters. What is the length of each side? | 25 [cm] |
| 5 | What is one-half of twenty-four? | 12 |
| 6 | What number is one-third of five hundred forty? | 180 |
| 7 | What is the greatest common factor of eighteen and twenty-four? | 6 |
| 8 | What is the product of six and twenty-three? | 138 |
| 9 | Round four hundred twenty-seven to the nearest hundred. | 400 |
| 10 | What number do you get when you subtract one from the sum of sixty-three and thirty? | 92 |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND #3 – SET 3

| # | Problem | Answer |
|---|---|---|
| 1 | What is five times four times three times two times one? | 120 |
| 2 | What is the sum of six hundred forty and one thousand, two hundred? | 1840 |
| 3 | What is the product of (the sum of eight and five) and (the difference of eight and five)? | 39 |
| 4 | The first positive odd number is one. What is the ninth positive odd number? | 17 |
| 5 | How many minutes are in two hours? | 120 [minutes] |
| 6 | If the quotient is twelve and the dividend is two hundred seventy-six, what is the divisor? | 23 |
| 7 | What is the quotient when you divide thirty-seven thousand, eighty by twelve? | 3090 |
| 8 | What is the greatest common factor of ten and fifteen? | 5 |
| 9 | Use the fraction twenty-three over twenty-four. Which number is the denominator? | 24 |
| 10 | What number do you get when you double the product of two and five? | 20 |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND #4 – SET 4

| # | Problem | Answer |
|---|---|---|
| 1 | What is the sum of fifty-six thousand, forty-two and forty-nine thousand, nine hundred eighty-five? | 106,027 |
| 2 | What is four hundred fifty plus thirty-seven? | 487 |
| 3 | What is the difference between (the product of twelve and eight) and (the sum of twelve and eight)? | 76 |
| 4 | What is the average of twelve, sixteen, and twenty-three? | 17 |
| 5 | What is the first double-digit prime number? | 11 |
| 6 | If the quotient is twelve and the divisor is two hundred seventy-six, what is the dividend? | 3,312 |
| 7 | What is the next prime number after seventeen? | 19 |
| 8 | How many decades are in two centuries? | 20 |
| 9 | What is the sum of one hundred twenty and eighteen? | 138 |
| 10 | What number do you get when you add nine to the sum of thirty-four and forty? | 83 |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND #5 – SET 5

| # | Problem | Answer |
|---|---|---|
| 1 | Three centimeters equals how many millimeters? | 30 [mm] |
| 2 | What is the product of three and forty-six? | 138 |
| 3 | What is the perimeter of a regular octagon with sides eighteen centimeters long? | 144 [cm] |
| 4 | What is the quotient when you divide two hundred fifty thousand by one hundred? | 2,500 |
| 5 | What is the sum of four hundred forty and two hundred forty? | 680 |
| 6 | Remember to properly express your answer. What is the sum of one-sixth and two-sixths and three-sixths? | 1 |
| 7 | What is the average of one, two, four, and nine? | 4 |
| 8 | What number do you get when you subtract the sum of four and three from nine? | 2 |
| 9 | What is the sum of three thousand, eight hundred and two thousand? | 5800 |
| 10 | What is the place value of the five in the number one hundred twenty-three, four hundred fifty-six? | tens |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND #6 – SET 6

| # | Problem | Answer |
|---|---|---|
| 1 | What is the sum of (twenty-four point three) and (four point one three)? | 28.43 |
| 2 | How many seconds are in 4 minutes? | 240 [seconds] |
| 3 | What is the perimeter of a regular hexagon with sides 25 millimeters long? | 150 [mm] |
| 4 | What is the product when you multiply three by (the product of four and five)? | 60 |
| 5 | What number is one-half of one thousand? | 500 |
| 6 | Remember to properly express your answer. What is the sum of one-sixth and two-sixths and three-sixths and four-sixths? | 5/3 |
| 7 | What is the product when you multiply (the sum of three and five) by four? | 32 |
| 8 | What is the sum of nine thousand, five hundred and two hundred forty? | 9740 |
| 9 | What is the positive difference of two thousand five hundred and four hundred fifty? | 2050 |
| 10 | Is the number 1776 odd or even? | even |

# "Math is Cool" Championships – 2016-17

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## COLLEGE KNOWLEDGE BOWL ROUND – EXTRA

| # | Problem | Answer |
|---|---|---|
| 1 | Remember to properly express your answer. What is the sum of one-tenth and four-tenths? | 1/2 |
| 2 | What is 873 plus 976? | 1,849 |
| 3 | How many minutes are there in 48 hours? | 2,880 [minutes] |
| 4 | What is 938 plus 327? | 1,265 |
| 5 | Find the average of nine, seven, and eight. | 8 |
| 6 | Reduce four-sixths. | 2/3 |

Final Score:
**KEY**
(Out of 8)

# "Math is Cool" Championships -- 2016-17

Student Name _____ Team #_____

School Name _____ Proctor Name_____ Room #_____

5th Grade **Mental Math** – 30 sec per question

**8 problems read orally to everyone - Approximately 8% of Individual Score - 25% of team score**
*You may NOT be seated next to anyone from your school. If you are MOVE NOW to avoid being disqualified! When it is time to begin, the proctor will read the first question twice. You may not do any writing or talking while arriving at a solution. Once you have a solution, record it on the sheet in front of you.* ***You may not change or cross out answers once you have written an answer down. If there are eraser marks, write-overs, or crossed-out answers, they will be marked wrong.*** *Once all students have laid their pencils on the desk, another question will be asked. If a student doesn't lay his/her pencil down, the maximum wait time is 30 seconds after completion of the second reading of the question before another question is asked. You may continue to work on a problem while the next question is being read. The value of each question is a one or zero. Each student will be asked the same eight questions. Individual scores used to determine individual placing will be determined by the sum of the Mental Math score and the Individual Test score for each individual. In addition, the top three Mental Math scores from one team will be totaled and doubled and will contribute to 25% of the team score.*

| | Answer | 1 or 0 | 1 or 0 |
|---|---|---|---|
| **1** | 25 | | |
| **2** | 1,650 | | |
| **3** | 47 | | |
| **4** | 115 | | |
| **5** | 100 [kilograms] | | |
| **6** | 29 [carrots] | | |
| **7** | [$]3[.00] | | |
| **8** | 15,935 | | |
| | | | |

# "Math is Cool" Championships – 2016-17

5th Grade – March 10, 2017

Final Score: KEY

School Name_____ Team #_____

Proctor Name _____ Room #_____

## 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 | E | | |
| 2 | D | | |
| 3 | B | | |
| 4 | C | | |
| 5 | E | | |
| 6 | A | | |
| 7 | C | | |
| 8 | E | | |
| 9 | A | | |
| 10 | D | | |
| | | | |

# "Math is Cool" Championships – 2016-17

5th Grade – March 10, 2017

Final Score: KEY

School Name_____Team #_____

Proctor Name_____Room #_____

## 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 | 1 | | |
| 2 | 32 | | |
| 3 | 11 | | |
| 4 | 490 | | |
| 5 | 0 | | |
| 6 | 10 | | |
| 7 | 500 | | |
| 8 | 180 | | |
| 9 | 5,751,900 | | |
| 10 | 0 | | |
| | | | |

# "Math is Cool" Championships -- 2016-17

5th Grade – March 10, 2017

KEY

## PRACTICE RELAY

| Answer for person # 1 | Answer for person # 2 | Answer for person # 3 | Answer for person # 4 |
|---|---|---|---|
| 36 | 6 | 2 | 8 |
| 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 |
|---|---|---|---|
| 200 | 4 | 7 | millions |
| 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 |
|---|---|---|---|
| 8 | 72 | [y=] 16 | 7/15 |
| 1 or 0 | 1 or 0 | 1 or 0 | 2 or 0 |

Final Score:

(Out of 8)

# "Math is Cool" Championships -- 2016-17

Student Name _____ Team #_____

School Name _____ Proctor Name_____ Room #_____

5th Grade **Mental Math** – 30 sec per question

**8 problems read orally to everyone - Approximately 8% of Individual Score - 25% of team score**

*You may NOT be seated next to anyone from your school. If you are MOVE NOW to avoid being disqualified! When it is time to begin, the proctor will read the first question twice. You may not do any writing or talking while arriving at a solution. Once you have a solution, record it on the sheet in front of you.* ***You may not change or cross out answers once you have written an answer down. If there are eraser marks, write-overs, or crossed-out answers, they will be marked wrong.*** *Once all students have laid their pencils on the desk, another question will be asked. If a student doesn't lay his/her pencil down, the maximum wait time is 30 seconds after completion of the second reading of the question before another question is asked. You may continue to work on a problem while the next question is being read. The value of each question is a one or zero. Each student will be asked the same eight questions. Individual scores used to determine individual placing will be determined by the sum of the Mental Math score and the Individual Test score for each individual. In addition, the top three Mental Math scores from one team will be totaled and doubled and will contribute to 25% of the team score.*

| | Answer | 1 or 0 | 1 or 0 |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| | | | |

# "Math is Cool" Championships – 2016-17

5th Grade – March 10, 2017

Final Score:

School Name_____ Team #_____

Proctor Name _____ Room #_____

## 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 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | | | |

Final Score:

# "Math is Cool" Championships – 2016-17

5th Grade – March 10, 2017

School Name_____ Team #_____

Proctor Name_____ Room #_____

## 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 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | | | |