Spirit of Math®

GRADE 5

International Spirit of Math® Contest 2026

Releasing the Genius®



INSTRUCTIONS

1. You have **60 minutes** to write the contest
2. The contest is multiple-choice with four choices for each question.
3. Write the **CAPITAL** letter of the answer you choose on the line to the right of each question and fill in the corresponding circle on the **Contest Answer Sheet**.
4. Each question answered correctly is worth one mark, and the sum of the correct answers is the score.
5. Marks are not taken off for wrong answers.
6. **No calculators** or other counting tools are allowed.

Student Name: _____ **Score:** /40

1) What is $3 \div 15 \times 15$?

A) 3 B) 5 C) 15 D) 45 ____

2) There are 11 students in a classroom and 54 slices of pizza. If each student gets 4 slices, how many pizza slices are left?

A) 10 B) 9 C) 6 D) 3 ____

3) Fill in the box: $\frac{4}{7} \square \frac{5}{8}$

A) > B) = C) < D) ≥ ____

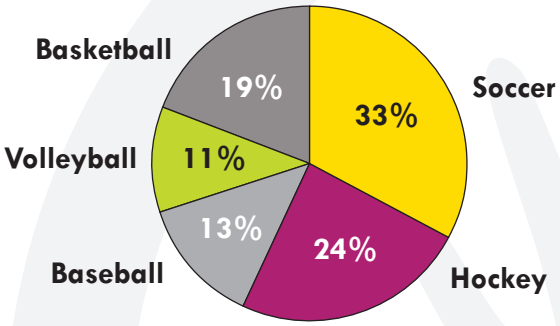
4) $(-1)^{10} - 1$

A) –2 B) –1 C) 0 D) 1 ____

5) Fractions can always be written in decimal form. For example, $\frac{18}{33} = 0.545454...$ where 54 repeats indefinitely. Find the 54th digit of the decimal expansion of $\frac{18}{33}$.

A) 3 B) 4 C) 5 D) 8 ____

6) Students at Spirit of Math were asked to choose their favourite sport. The pie graph below shows the results. Which sport was chosen by approximately one-third of the students?



A) Soccer B) Hockey C) Baseball D) Basketball ____

7) What is the next term in the sequence: 0.5, 0.5, 1, 3, 12, …

A) 60 B) 48 C) 36 D) 24 ____

8) Nick is helping his mother shop for groceries. She buys 3 items, each weighing 3.2 kg, 1350g, and 30 g. What is the total weight of all groceries in kilograms? Hint: 1 kg = 1000 g.

A) 1.4 kg B) 3.38 kg C) 4.58 kg D) 4.7 kg ____

Space for rough work

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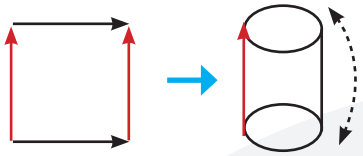
9) Zaid has 3 pairs of black shoes, 4 pairs of white shoes, and 2 pairs of blue shoes. What is the probability that Zaid picks a pair white shoes?

A) $\frac{1}{3}$ B) $\frac{2}{9}$ C) $\frac{4}{9}$ D) $\frac{2}{3}$ ____

10) The factorial of a whole number is written using the symbol ! and is found by multiplying the number by all positive whole numbers less than it. For example, 4! means $4\times3\times2\times1$. If the sum of the factorials of three consecutive numbers is 150, what is the smallest of the three numbers?

A) 1 B) 2 C) 3 D) 4 ____

11) Suppose you have a square sheet of paper. Without folding or twisting, you glue one pair of opposite edges together, and then glue the remaining pair of opposite edges together. What shape is formed?



A) Cube B) Cylinder C) Donut D) Sphere ____

12) You are waiting in line to buy tickets to "Mathzilla". You notice there are two times as many people in front of you, as behind you. If you are the fifth person in line, how many people in total are standing in line including you?

A) 6 B) 7 C) 8 D) 9 ____

13) How many numbers are perfect squares between 2 and 300?

A) 16 B) 17 C) 18 D) 19 ____

14) Calculate 2^{3^2}

A) 12 B) 36 C) 64 D) 512 ____

15) In the magic square below, each row, column, and diagonal have the same sum. What number does * represent?

11	9	10
10		*

A) 11 B) 10 C) 9 D) 8 ____

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16) What is the sum of **all** prime factors of 252?

A) 10 B) 12 C) 15 D) 17 ____

17) Calculate: $3 \times (-22) \div 33 \times (-2) \div (-4) \div 17 \times (-3) \times (-34) \div (-9) \times 3$

A) 1 B) 2 C) 2.5 D) 3 ____

18) Mustafa has just opened a box of chocolates that the four of us are going to share. If I eat $\frac{1}{2}$ of the chocolates, Zain eats $\frac{1}{4}$ of the chocolates, and Darrin eats $\frac{1}{8}$ of the chocolates, then what fraction of the chocolates is left for Mustafa?

A) $\frac{1}{8}$ B) $\frac{1}{6}$ C) $\frac{1}{4}$ D) $\frac{1}{2}$ ____

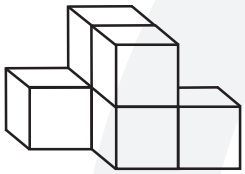
19) Doris is ordering a pizza. There are four different toppings to choose from. She wants to choose two toppings, and she is allowed to choose the same topping more than once, such as getting double pepperoni. How many different topping combinations can Doris choose?

A) 6 B) 8 C) 10 D) 12 ____

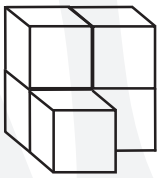
20) Eleven markers are placed vertically in a straight line. Each marker has a width of 2 cm, and the distance between adjacent markers is 57 cm. How far is it from the left edge of the first marker to the right edge of the last marker?

A) 570 cm B) 590 cm C) 592 cm D) 649 cm ____

21) The solid shown in the figure is created by gluing wooden cubes together. How many cube faces does the solid have?



Front view



Side view

A) 24 B) 22 C) 20 D) 18 ____

22) A rectangular floor measures 420 cm by 336 cm. You want to cover the floor using square tiles, each measuring 28 cm by 28 cm. How many tiles are needed to completely cover the floor?

A) 27 B) 144 C) 180 D) 210 ____

23) The average of ten numbers is 82. When an eleventh number is added, the average increases to 85. What is the eleventh number?

A) 85 B) 88 C) 90 D) 115 ____

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24) John is playing a number adventure game that starts with the number 13. He follows two simple rules: if the number is even, he cuts it in half, and if the number is odd, he triples it and adds 1. John repeats these steps over and over, trying to reach the number 1. How many steps does it take John to win the game?

A) 6 B) 9 C) 12 D) 15 ____

25) How many three-digit numbers have digits that add up to 4?

A) 6 B) 8 C) 10 D) 12 ____

26) Juan Pablo attempted to sum the whole numbers from 1 to 10 inclusive. He mistakenly left out one of the numbers and got a sum which was 1 less than a perfect square. Determine the whole number that Juan Pablo mistakenly omitted.

A) 5 B) 6 C) 7 D) 8 ____

27) I can read 18 pages in 3 days. My friend can read 35 pages in one week. If we read together every day, how many pages can we read altogether in the month of April?

A) 180 B) 210 C) 245 D) 330 ____

28) A playschool has 48 pencils and 30 crayons. The school wants to pack them into as many identical stationery boxes as possible, with no items left over. Each box must contain the same number of pencils and the same number of crayons. What is the greatest number of boxes that can be filled?

A) 6 B) 12 C) 30 D) 48 ____

29) If it rains during the afternoon, then soccer practice will be canceled. If soccer practice is canceled, then the team will not practice their drills. Which statement must be true?

A) If the team practices their drills, then it did not rain during the afternoon.

B) If it does not rain during the afternoon, then soccer practice will happen.

C) If soccer practice happens, then the team will practice their drills.

D) If the team does not practice their drills, then it rained during the afternoon. ____

30) A survey conducted in the town of Fakename found that 501 people like chocolate, 589 people like candy, and 345 people like both chocolate and candy. Everyone in the town likes at least one of these two options. How many people were surveyed in Fakename?

A) 400 B) 433 C) 745 D) 1435 ____

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31) If $a \sim b$ is defined as $ab - (a + b)$ find the value of $(2 \sim 4) \sim 8$

A) –18 B) –6 C) 6 D) 18 ____

32) Which of the following statements is **FALSE**?

i) There exists two prime numbers whose sum is prime.

ii) There exists two prime numbers whose product is prime.

iii) If two numbers are relatively prime, then their greatest common factor is 1.

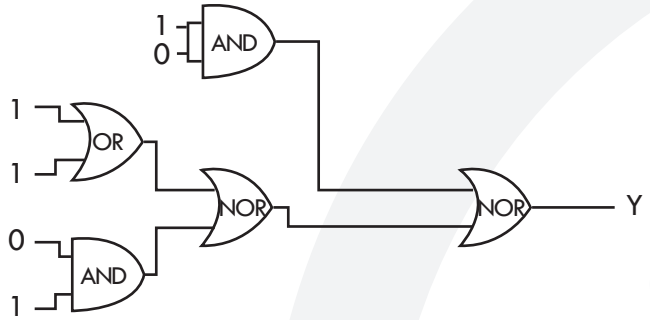
iv) The number 51 is not in the prime factorization of 74,970.

A) i B) ii C) iii D) iv ____

33) How many factors does the number 7560 have in its factor set?

A) 36 B) 48 C) 64 D) 72 ____

34) A logic gate makes a decision based on an input and provides an output of 0 or 1. The logic gate "OR" takes two inputs and will output 1 if either or both of its inputs are 1. The logic gate "AND" takes two inputs and will output 1 only when both of its inputs are 1. The logic gate "NOR" takes two inputs and will output 1 only when both of its inputs are 0. What is the output of the rightmost logic gate?



A) –1 B) 0 C) 1 D) Not possible to determine ____

35) What is the date today if July 5th was six days before, one day after, four days before, the day before, eight days after, the day before yesterday?

A) July 11 B) July 9 C) July 7 D) July 5 ____

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36) How many numbers from 1 to 300, inclusive, are multiples of 5 or 8?

A) 85 B) 82 C) 90 D) 97 ____

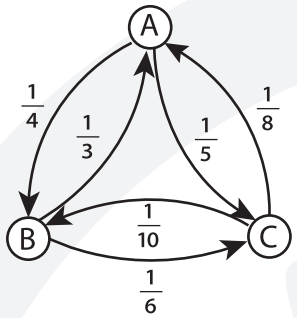
37) At 12:00 p.m., the hour and minute hands are at the same position. After 9 hours and 15 minutes have passed, how many degrees have the two hands combined covered?

A) 3600 B) 3607.5 C) 3615 D) 3645 ____

38) Suzie prints all of the numbers from 1 to 865. How many times does she print the digit 7?

A) 160 B) 166 C) 260 D) 266 ____

39) In the land of Markovia, there are three cities: A, B, and C. There are 100 people who live in A, 120 who live in B, and 160 who live in C. Everyone works in exactly one of the three cities. A person may work in the same city where they live. In the figure below, an arrow pointing from one city to another is labeled with the fraction of people living in the first city who work in the second city. (For example, $\frac{1}{4}$ of the people who live in A work in B.) How many people work in A?



A) 60 B) 95 C) 115 D) 130 ____

40) What is $-2 \times (-7)^2 \div 14 - 3 \times (5 \times 4 \div 5 \times 4) \div 2^3 \times 6 - (7 - 3 \times 4)^2 \div (-5)$

A) –48 B) –38 C) 1 D) 28 ____

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To promote co-operation, inspire confidence and Release the Genius® in every child.

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