Spirit of Math
Releasing the Genius ®

GRADE 4

Spirit of Math
International Contest 2020

In collaboration with SMILE developed by Stanford University

INSTRUCTIONS

1 You have **45 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 SoM Answer Sheet.

4 Each question answered correctly is worth one mark, and the sum of the correct answers is the score.
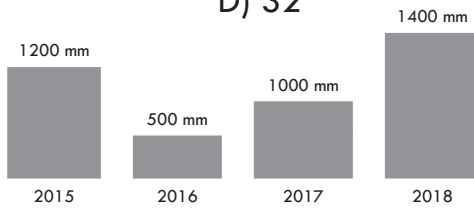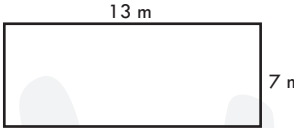
5 Marks are not taken off for wrong answers.

6 No calculators or other counting tools are allowed.

Student Name:

Score: /30

1) $25 + 16 + 34 + 75 = ?$

A) 100 B) 150 C) 200 D) 207 _____

2) What is the next term in this sequence: 1, 12, 23, 34, ____

A) 43 B) 44 C) 45 D) 46 _____

3) Kim saw three dogs and five people at the park. She counted all their legs. How many legs did she count?

A) 8 B) 16 C) 22 D) 32 _____

4) The graph on the right shows the amount of rainfall from 2015 to 2018. Which year had the most rainfall?

A) 2015 B) 2016 C) 2017 D) 2018 _____

5) $5 \times 2 \times 10 \times 0 \times 5 \times 2 \times 10 = ?$

A) 0 B) 100 C) 1000 D) 10000 _____

6) Raya walked twice around the perimeter of her garden fence. How far did Raya walk?

A) 20 m B) 30 m C) 60 m D) 80 m _____

7) Yehan rounded her favourite number to the nearest hundred, resulting in 1300. Which of the following could be Yehan's favourite number?

A) 1295 B) 1395 C) 1400 D) 12 950 _____

Space for rough work

8) Miki cuts her banana into 20 pieces using parallel cuts. How many cuts does she make?
    A) 10   B) 19   C) 20   D) 21   _____

9) What is the number of sides in one triangle plus the number of sides in two
    rectangles minus the number of sides in one pentagon?
    A) 2   B) 6   C) 10   D) 12   _____

10) What is the missing number in $16 + \_\_\_ = 7$?
    A) −23   B) −9   C) 9   D) 11   _____

11) My birthday is May 3rd. What is the date one week after two days before my birthday?
    A) April 28th B) May 5th C) May 8th D) May 10th _____

12) Kenyata sees **!nuɟ ƨi dtɒM** in the reflection of his T-shirt in the mirror. What is
    printed on his T-shirt?

    A) **Math is fun!**   B) **!nuf si htaM**   C) **!nuɟ ƨi dtɒM**   D) **Mɒtd iƨ ɟun!**   _____

13) Scoring Scott scored 15 goals in each of his first five soccer games. What does he
    need to score in his next game to have an average of 16?
    A) 16   B) 21   C) 75   D) 96   _____

14) At Learn A Lot School there are 300 students who enjoy drama, 600 who enjoy
    music, and 100 who enjoy both drama and music. How many students attend
    Learn A Lot School?
    A) 700   B) 800   C) 900   D) 1000   _____
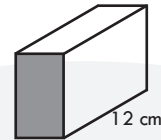

Space for rough work

15) Students at Ont. IME Academy must arrive at school exactly 9 hours and 99 minutes before 9 p.m. At what time must they arrive?

A) 10:21 a.m.   B) 10:27 a.m.   C) 10:39 a.m.   D) 11:27 a.m.   _____

16) $39 \div 11 \div 3 \times 22 \div 13 \times 9 = ?$

A) 18   B) 54   C) 108   D) 3759   _____

17) After Ana's birthday party, 20 friends hugged each other once to say goodbye. How many hugs were given altogether?

A) 20   B) 21   C) 190   D) 210   _____

18) Lola is choosing a shirt to wear to school. She has 6 white, 9 black, 5 blue, 11 green, and 14 red shirts. It is too dark in her room to see the colours. How many does she need to take out to be sure she has taken out at least 1 green shirt?

A) 1   B) 11   C) 34   D) 35   _____

19) How many different ways can you arrange the letters in BANANA including the way that spells banana?

A) 60   B) 120   C) 144   D) 720   _____

20) Serena has 24 toy trains: 8 are cargo trains, 10 are light rail, and 6 are passenger. What is the probability she will choose a cargo or passenger train to play with?

A) $\dfrac{2}{3}$ B) $\dfrac{3}{4}$ C) $\dfrac{5}{12}$ D) $\dfrac{7}{12}$ _____

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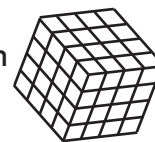
21) Calculate $9 + 27 \div \left(5 - \sqrt{4}\right)^2$

    A) 4   B) 12   C) 90   D) 144   _____

22) Daring Danny played his guitar for 1 minute on February 1st, 2 minutes on February 2nd, 3 minutes on February 3rd and so on until the end of the last day of February 2020. How many minutes in all did he play?

    A) 28   B) 406   C) 435   D) 450   _____

23) What is a third of a third of a third of a pie? Which question below requires the correct logical thinking to answer this problem?

    A) Do I add or multiply?   C) How much of the pie is there?

    B) What is the equation?   D) What is a third of a third?   _____

24) The volume of this solid with integer side lengths is 360 cm³. If one side is 12 cm, what is its possible height?

    12 cm

    A) 6 cm   B) 12 cm   C) 24 cm   D) 60 cm   _____

25) Coco writes two numbers with the digits 0, 1, 2, 3, 4, 5 and 6. One number has four digits and the other has three digits. Each digit is used only once. When she adds these two numbers, what is the smallest sum Coco could get?

    A) 809   B) 1271   C) 1281   D) 1479   _____

Space for rough work

26) A large cube is made up of 64 smaller cubes glued together as shown in the picture. How many smaller cubes have only two faces without glue?

A) 8   B) 16   C) 24   D) 32   ____

27) Gold leaf is made by hammering pure gold into extremely thin sheets. You cut the gold leaf into many squares of two sizes worth either $100 or $200 each. Which of the following options is worth the most?

A) 1 kg of the $100 squares   B) $\frac{1}{2}$ kg of the $200 squares   C) They are worth the same   D) Not enough information given   ——

28) On Rajiv's street, houses are numbered consecutively. Odd-numbered houses are painted blue and even-numbered houses are painted yellow. If Rajiv counted 31 houses and stopped counting at the house numbered 230, what was the number of the first blue house he counted?

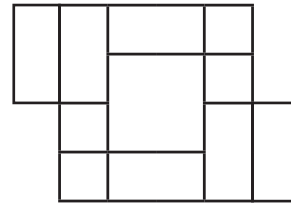A) 197   B) 199   C) 201   D) 202   ____

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Space for rough work

29) Mrs. Jones gives her Grade 4 class a test every 14 school days. Mr. Goodyear gives his Grade 5 class a test every 30 school days. If both classes have a test on Day 10 of school, when is the next school day they will have a test on the same day?

A) 35   B) 60   C) 210   D) 220   ____

30) How many rectangles of all sizes are in this shape?

A) 27   B) 28   C) 29   D) 30   ____

_____

Space for rough work

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