

GRADE 3

Spirit of Math International Contest 2021

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) $13 + 12 + 7 + 4 + 18 + 6 = ?$
 A) 50 B) 60 C) 70 D) 80 _____

2) Which month has the fewest number of days?
 A) April B) February C) June D) September _____

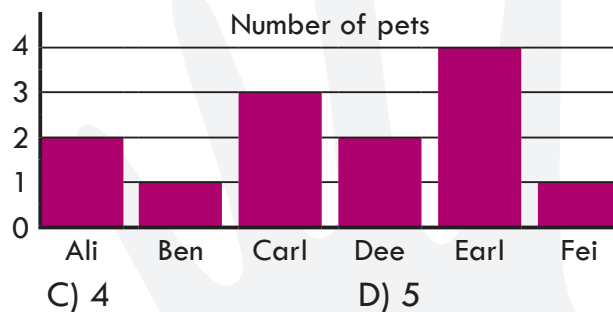
3) A palindrome is a word, phrase, or number that reads the same forwards and backwards. For example, the word **level** is a palindrome. Which of these numbers is a palindrome?
 A) 123 B) 221 C) 321 D) 343 _____

4) Find the next number in the pattern: 6, 9, 12, 15, _____
 A) 18 B) 19 C) 20 D) 21 _____

5) Sasha wants to donate her extra books equally to the two schools in her neighbourhood. If Sasha has 22 books, how many books can she donate to each school?
 A) 2 B) 10 C) 11 D) 20 _____

6) What is four times the number of sides of a rectangle?
 A) 4 B) 8 C) 12 D) 16 _____

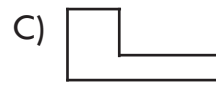
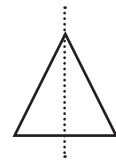
7) The graph to the right shows the number of pets that six friends have. How many friends have exactly two pets?
 A) 2 B) 3 C) 4 D) 5 _____



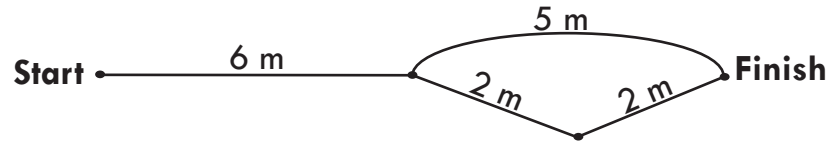
Space for rough work



- 8) If a shape can be folded in half with both halves identical, then it has a line of symmetry. For example, one line of symmetry is shown in the triangle to the right. Which shape below has a line of symmetry?



- 9) How long is the shortest path from Start to Finish in the diagram below?



A) 8 m

B) 10 m

C) 11 m

D) 12 m

- 10) Which fraction is the largest?

A) $\frac{2}{6}$

B) $\frac{3}{6}$

C) $\frac{5}{6}$

D) $\frac{4}{6}$

- 11) Nozomi needs to paint all the faces on two separate cubes for a project. How many faces will she paint?

A) 6

B) 8

C) 12

D) 24

- 12) Sanaa is four years older than Dionne. Dionne is two years older than Allie. If Allie is eight years old, how old is Sanaa?

A) 6

B) 10

C) 12

D) 14

- 13) A prime number is a whole number with exactly two factors: 1 and itself. For example, 13 is a prime number because only $1 \times 13 = 13$. How many prime numbers are less than 10?

A) 3

B) 4

C) 5

D) 6

Space for rough work

- 14) Chloe baked two dozen cupcakes for her class. One-quarter of the cupcakes were eaten. How many cupcakes were eaten?
A) 4 B) 6 C) 8 D) 18 _____
- 15) A biologist is studying 61 rare spotted butterflies each with blue or orange spots. She sees 44 butterflies with blue spots and 29 butterflies with orange spots. How many butterflies have both blue and orange spots?
A) 12 B) 17 C) 18 D) 32 _____
- 16) Alain has nine presents, Ava has 15 presents, and Amir has six presents. What is the average number of presents that Alain, Ava, and Amir have?
A) 10 B) 11 C) 12 D) 15 _____
- 17) Nine students join the robotics club at school. They all shake hands with each other once and introduce themselves. How many handshakes are there in total? Which question below requires the correct logical thinking to solve this problem?
A) How many students are in the club? C) How long does a handshake take?
B) How many students did not shake hands? D) How many handshakes does each student make? _____
- 18) The temperature in Winnipeg is 10°C at 8 a.m. During the day it went up 2 degrees, down 8 degrees, down 4 degrees, up 1 degree, and stayed at that temperature overnight. By how many degrees does the morning temperature **differ** from the night temperature?
A) 1 B) 9 C) 10 D) 15 _____

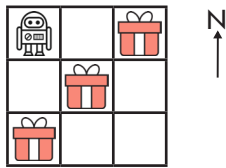
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19) Jo started reading her book at the top of page 34 and finished at the bottom of page 57. How many pages did she read?

- A) 22 B) 23 C) 24 D) 25 _____

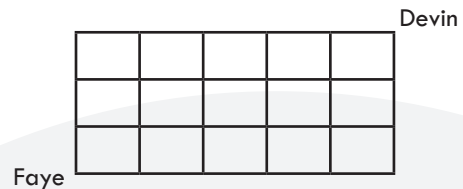
20) Roger the Robot needs to pick up all three presents in the image below. Which of the following options will direct him to pick up all the presents?



N = move one space north
 E = move one space east
 S = move one space south
 W = move one space west
 * = pick up present

- A) WS*WS*WS* B) EE*SW*NE* C) SS*EE*NN* D) EE*SW*SW* _____

21) Faye needs to travel to Devin's house for a birthday party. She can only travel north and east on a 3x5 grid. How many different ways can Faye take to get to Devin's house?



- A) 35 B) 56 C) 74 D) 126 _____

22) Maryam went to the zoo. She saw two-legged parrots and four-legged iguanas. If Maryam counted 13 heads and 34 legs, how many iguanas did she see?


- A) 4 B) 6 C) 9 D) 13 _____

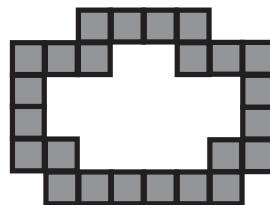
23) Ruby left for the theatre at 2:20 p.m. and arrived home at 6:00 p.m. If her one-way travel time is 20 minutes, how long was Ruby at the theatre?

- A) 2 hours and 40 minutes C) 3 hours and 20 minutes
 B) 3 hours D) 3 hours and 40 minutes _____

Space for rough work



- 24) Natalina has many L-shaped pieces  (as shown) that she can rotate and flip. How many pieces does Natalina need to fill the unshaded space inside the figure to the right?



A) 4 B) 5 C) 6 D) 8 _____

- 25) Akir, Beth, Caleb and Diana each have a different favourite vegetable: beans, broccoli, carrots or corn. Beans are Diana's favourite vegetable. Akir does not like carrots. No one likes a vegetable that starts with the same letter as their name. Who likes corn?

A) Akir B) Beth C) Caleb D) Diana _____

- 26) Forty-six people go to *Sam's Sub Shop* for its grand opening. All but 17 people leave. Sam has one extra-long sandwich that he needs to cut into equal pieces for each of the guests who stayed. How many parallel cuts should he make?

A) 16 B) 17 C) 28 D) 29 _____

- 27) Ron can't wait until the new Barry Otter book comes out! June 28th is two weeks before five days after four days after the day before the book is available at the bookstore. When should Ron go to the bookstore?

A) June 21st B) June 22nd C) July 3rd D) July 4th _____

Space for rough work



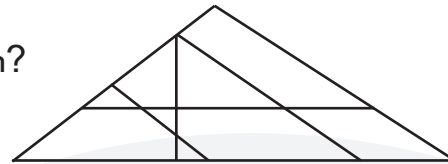
28) Jake ran a marathon. His fitness tracker beeped once when he ran 1 km, twice when he ran 2 km, and so on. If the tracker took 12 seconds to beep three times when he ran 3 km, how long did it take to beep 14 times after he ran 14 km?

- A) 52 seconds
 B) 56 seconds
 C) 1 minute and 18 seconds
 D) 1 minute and 24 seconds

29) Sonia is planning a tour of the *Ontario Science Centre*. She wants to visit the Dinosaur Exhibit, the Planetarium, the Living Earth, and the Science Arcade each once, but she does not want to see the Dinosaur Exhibit last. How many different ways can Sonia tour the *Ontario Science Centre*?

- A) 12
 B) 15
 C) 18
 D) 24


30) How many triangles of all sizes are in this diagram?



- A) 11
 B) 12
 C) 13
 D) 14

Space for rough work





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