Spirit of Math.

Releasing the Genius ®

GRADE 3

Spirit of Math International Contest 2022

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.

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.

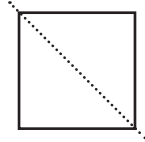**Student Name:**

Score: /30

1) $7 + 6 + 13 + 9 + 14 + 1 = ?$

   A) 20　　　　　B) 30　　　　　C) 45　　　　　D) 50　　　　____

2) The sun was shining three days this week and the rest of the week was cloudy. How many days was it cloudy this week?

   A) 3　　　　　B) 4　　　　　C) 5　　　　　D) 7　　　　____

3) A detective finds a strange code written on a piece of paper. It reads: @ © ® @ © ® @ © ®. What is the next symbol in the pattern?

   A) @　　　　　B) ®　　　　　C) ©　　　　　D) §　　　　____

4) Lily counted two dozen stars in the night sky! How many stars did she count?

   A) 6　　　　　B) 12　　　　　C) 18　　　　　D) 24　　　　____

5) A palindrome is a number or word that reads the same forwards and backwards. For example, the number 202 is a palindrome. Which of the following is a palindrome?

   A) 1011　　　　B) 1100　　　　C) 1221　　　　D) 2211　　　____

6) Sam works at a bicycle repair shop that only has bicycles with 2 tires. One morning, he inspects the tires of 5 bicycles. How many tires does he inspect in total?

   A) 5　　　　　B) 10　　　　　C) 20　　　　　D) 40　　　　____

7) Joanna needs to arrive at the airport 2 hours before her flight takes off at 9:45 p.m. What time should she arrive at the airport?

   A) 7:45 p.m.　　B) 8:45 p.m.　　C) 10:45 p.m.　　D) 11:45 p.m.　____

Space for rough work

8) What is five times the number of sides of a hexagon?

A) 20   B) 25   C) 30   D) 35   _____

9) 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 square to the right. Which shape below has a dotted line that is a line of symmetry?

A)   B)   C)   D)   _____

10) What is the next number in the pattern? 3, 4, 6, 9, __

A) 10   B) 11   C) 12   D) 13   _____

11) A grasshopper can cross 20 cm in a single jump. A frog can cross 60 cm in a single jump. If the grasshopper and the frog start a race to go across a log that is 240 cm long, who will take the least number of jumps?

A) The grasshopper   B) The frog
C) The rabbit   D) They will cross the log at the same time.   _____

12) Stephanie went to the petting zoo and recorded the animals she saw in the chart to the right. Each ▲ represents **three** animals. How many sheep did Stephanie see?

Bunnies	▲ ▲ ▲ ▲ ▲
Sheep	▲ ▲ ▲ ▲
Ponies	▲ ▲

A) 4   B) 11   C) 12   D) 15   _____

13) One-half of Soleila's friends know how to play the piano. If Soleila has 20 friends, how many of her friends can play the piano?

A) 4   B) 5   C) 10   D) 15   _____

_____

Space for rough work

14) Matilda likes the numbers 5, 15, 20, 30, and 35, but not 3, 8, 11, 21, or 26. Which of the following numbers will Matilda like?

A) 12   B) 23   C) 45   D) 62   _____

15) Khalil is four years older than Lei. Lei is two years younger than Sean. If Sean is 15 years old, how old is Khalil? Which question below is the **first** logical question you should ask to solve this problem?

A) Who is the oldest person?   C) How old is Lei?
B) How old is Khalil?   D) How old is Sean?   _____

16) John takes a journey through the countryside. He travels 6 km north, 6 km east, 6 km south, and 1 km west. How far is he now from his starting place?

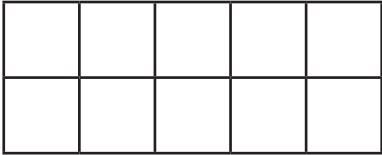A) 0 km   B) 5 km   C) 6 km   D) 19 km   _____

17) During a bake sale, Parisa sold 20 cookies, Marlene sold 12 cookies, and Tia sold 10 cookies. What was the average number of cookies sold by Parisa, Marlene, and Tia?

A) 14   B) 15   C) 16   D) 18   _____

18) If ◯ + ◯ = ☐ , then ☐ – ◯ = ?

A) Zero   B) ☐   C) ◯   D) ⬡   _____

19) Fifty-one customers placed an order at a restaurant one afternoon. Of these, 21 of them ordered green tea, 29 ordered milk tea, and 5 ordered neither green nor milk tea. How many ordered both green and milk tea?

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

Space for rough work

20) Levi is going to visit Max. He can only travel north (up) and west (left) on a 2 × 5 grid of pathways. How many different pathways can Levi take to visit Max?

Max
```
┌───┬───┬───┬───┬───┐
│   │   │   │   │   │
├───┼───┼───┼───┼───┤
│   │   │   │   │   │
└───┴───┴───┴───┴───┘
```
Levi

A) 7   B) 10   C) 20   D) 21   _____

21) The Great Wall of China is 21 196 km long. On a certain map, the wall is shown to be approximately 2 cm long. Approximately how many kilometres does one centimetre on the map represent in real life?

A) 1 000 km   B) 2 000 km   C) 10 000 km   D) 20 000 km   _____

22) A large box of chocolates contains 12 white chocolates, 6 milk chocolates, and 6 dark chocolates. If I pick out some chocolates with my eyes closed, what is the fewest number of chocolates I need to pick to be sure that I have at least one white chocolate?

A) 6   B) 7   C) 12   D) 13   _____

23) Sakura wants to plant 36 trees in her neighbourhood by the end of this year. In her first month of planting she will plant one tree, in the second month she will plant two trees, in the third month she will plant three trees, and so on. What is the latest month Sakura should start planting trees?

A) March   B) April   C) May   D) June   _____

24) My uncle's birthday is 3 days after 4 days before 7 days after 1 day before my birthday. My aunt's birthday is 4 days after 3 days before 6 days after 2 days before my birthday. If I was born on July 2nd, whose birthday comes first?

A) My uncle's   B) My aunt's   C) They have the same birthday   D) Impossible to tell   _____

Space for rough work

25) Two pencils and three erasers cost $8. Three pencils and two erasers cost $7. How much does one pencil and one eraser cost?

A) $2   B) $3   C) $5   D) $15   _____

26) Spaceships only fly in the direction they are facing. A spaceship can collect a star if it enters the same space as a star. Which spaceship will collect the most stars by following the instructions below?
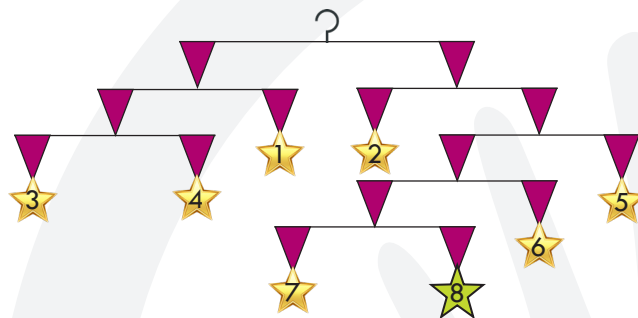
Instructions:
1. Move forward two spaces.
2. Turn right.
3. Move forward two spaces.

A) Spaceship A   B) Spaceship B   C) Spaceship C   D) Spaceship D   _____

27) Vikasini is making a toy for her baby brother using eight stars. She wants to balance each piece (▼▬▼) of the toy so all pieces hang parallel. Vikasini knows Star 3 weighs 64 grams. How much should Star 8 weigh to balance the toy?

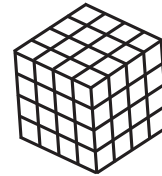A) 8 grams   B) 16 grams   C) 32 grams   D) 64 grams   _____

Space for rough work

28) A computer program converts words into numbers according to a special rule.
Some words and their conversions are shown below:

RED = 212, BLUE = 2211, GREEN = 22112, ORANGE = 121221

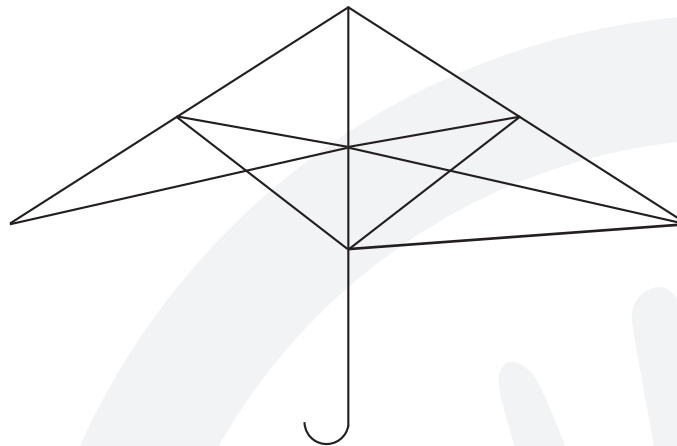Which word will be converted into a number whose digits add up to 10?
A) BROWN   B) PINK   C) SILVER   D) WHITE   _____

29) Marcia has a large 4 by 4 by 4 cube made up of little
1 by 1 by 1 cubes. She accidentally dropped her large
cube into a bucket of paint, covering all faces with paint.
How many of Marcia's little cubes have paint on them?
A) 48   B) 56   C) 64   D) 96   _____

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

A) 23   B) 24   C) 25   D) 27   _____

_____

Space for rough work

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