

**Division**

**P3**

**Singapore and Asian  
Schools Math Olympiad  
2015**



**Full Name:** \_\_\_\_\_

**Index Number:** \_\_\_\_\_

**Class:** \_\_\_\_\_

**School:** \_\_\_\_\_

**INSTRUCTIONS**

1. Please **DO NOT OPEN** the contest booklet until the Proctor has given permission.
2. TIME: **1 hour 30 minutes**.
3. Attempt all 20 questions.  
Questions 1 to 10 score 2 points each, no points are deducted for unanswered question and 1 point is deducted for wrong answer.  
Questions 11 to 20 score 4 points each. No points are deducted for unanswered or wrong answers.
4. Shade your answers neatly using a pencil in the answer sheet.
5. PROCTORING: No one may help any student in any way during the contest.
6. No electronic devices capable of storing and displaying visual information is allowed during the course of the exam.
7. Strictly **No Calculators** are allowed into the exam.
8. All students must fill and shade in in their **Name, Index number, Class and School** in the answer sheet and contest booklet.
9. MINIMUM TIME: Students must stay in the exam hall at least 1h 15 min.
10. Students must show detailed working and transfer answers to the answer sheet.
11. **No exam papers and written notes can be taken out by any contestant.**

**SASMO 2015 PRIMARY 3** [10 MCQ + 10 non-MCQ = 20 Q]

Starting Score = 10 marks (to avoid negative marks); Max Possible Score = 70 marks

**Section A (Correct answer = 2 marks; no answer = 0; incorrect answer = minus 1 mark)**

1. Find the missing term in the following sequence: 1, 2, 4, 7, \_\_\_\_\_, 16.

- (a) 10
- (b) 11
- (c) 12
- (d) 13
- (e) 14

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2.  $2^5$  means 2 multiplied by itself 5 times, i.e.  $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$ . What is  $3^4$  equal to?

- (a) 7
- (b) 12
- (c) 27
- (d) 81
- (e) None of the above

3. An operator  $\star$  acts on two numbers to give the following outcomes:

$$3 \star 2 = 51$$

$$5 \star 3 = 82$$

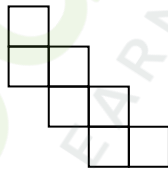
$$6 \star 1 = 75$$

$$9 \star 4 = 135$$

What is  $7 \star 5$  equal to?

- (a) 112
- (b) 121
- (c) 122
- (d) 212
- (e) None of the above

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4. The diagram shows a figure that contains 7 identical squares. The area of the figure is  $112 \text{ cm}^2$ . Find its perimeter.



- (a) 56 cm
- (b) 60 cm
- (c) 64 cm
- (d) 68 cm
- (e) 72 cm

5. Fill in the blank: \_\_\_\_\_ is 4 tens 5 ones greater than 2 tens 7 ones.

- (a) 18
- (b) 28
- (c) 62
- (d) 72
- (e) None of the above

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6. Which of the following statement(s) is or are correct?

Statement A:  $7 + (0 \times 2) = 7$

Statement B:  $7 + (0 \div 2) = 7$

Statement C:  $7 + (2 \times 0) = 7$

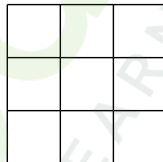
- (a) All the three statements are correct.
- (b) Only Statements A and B are correct.
- (c) Only Statements A and C are correct.
- (d) Only Statements B and C are correct.
- (e) None of the above

7. There are 4 types of cakes available in a cake shop: chocolate, cheese, blueberry and blackforest. Naomi wants to buy 2 different types of cakes. How many different choices does she have?

- (a) 4
- (b) 6
- (c) 8
- (d) 10
- (e) 12

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8. Find the total number of squares in a  $3 \times 3$  square grid.



- (a) 9
- (b) 10
- (c) 13
- (d) 14
- (e) 15

9. Find the smallest whole number between 14 and 40 that is divisible by 3 and by 4.

- (a) 12
- (b) 16
- (c) 18
- (d) 24
- (e) 36

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10. What is the length of the largest square that can be made from 50 one-centimetre square tiles?

- (a) 5 cm
- (b) 6 cm
- (c) 7 cm
- (d) 8 cm
- (e) None of the above

**Section B (Correct answer = 4 marks; incorrect or no answer = 0)**

11. Two numbers are such that
- the first number is greater than or equal to 5, but less than or equal to 8
  - the second number is greater than or equal to 2, but less than or equal to 10.

Find the least possible value of the sum of the two numbers.

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12. If the four-digit number  $12N4$  is divisible by 3 and  $N$  is less than 5, find  $N$ .

13. A whole number multiplied by itself will give a special type of numbers called perfect squares. Examples of perfect squares are  $9 (= 3 \times 3)$  and  $16 (= 4 \times 4)$ . What is the smallest number that can be multiplied by 28 to give a perfect square?

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14. Find the day of the week that is 50 days from a Monday.



15. Amy wants to cut rectangular cards of length 4 cm by 3 cm from a rectangular sheet 32 cm by 21 cm. Find the biggest number of cards that can be cut from the sheet.

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16. There are 5 items (a ruler, a pen, an eraser, a sharpener and a hole puncher) lying in a straight row on a table. The eraser is next to the hole puncher and the sharpener. The ruler is next to the hole puncher. The sharpener is the first item on the left. What is the order of the items on the table from left to right?

17. In the following, all the different letters stand for different digits. Find the two-digit NO.

$$\begin{array}{r} \text{N O N} \\ - \quad \text{A N} \\ \hline \text{N O} \\ \hline \end{array}$$

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18. 50 cakes are packed in two different box sizes. The small box holds 4 cakes and the big box holds 6 cakes. If less than 10 boxes are used and all the boxes are fully packed, how many big boxes are used?



19. Alice and Ben are sister and brother. Alice has as many sisters as she has brothers, but Ben has twice as many sisters as he has brothers. How many boys and girls are there in their family?

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20. The diagram shows a rectangle being divided into 3 smaller rectangles and a square. If the perimeter of the unshaded rectangle is 16 cm and the area of the square is  $9 \text{ cm}^2$ , find the total area of the shaded rectangles.

