INTERNATIONAL SINGAPORE MATHS COMPETITION
2017
(Primary 4)

1 hour 30 minutes

Instructions to participants

1. Do not open the booklet until you are told to do so.

2. Attempt ALL 25 questions.

3. Write your answers neatly in the Answer Sheet provided.

4. Marks are awarded for correct answers only.

5. All figures are not drawn to scale.

6. No calculators may be used.

Questions in Section A carry 2 marks each, questions in Section B carry 4 marks each and questions in Section C carry between 6 to 10 marks each.

Jointly organised by

Section A:
Each of the questions 1 to 10 carries 2 marks.

1. How many 4-digit numbers are exactly 2017 more than a 2-digit number?

2. Samuel gave away 114 muffins equally among his relatives.
    He has between 20 to 40 relatives.
    How many muffins did Samuel give to each relative?

3. The diagram shows a square divided into 4 parts.
    The area of 3 of the parts are given. What is the area of the fourth part?

12 cm²	15 cm²
8 cm²	

4. The table shows the number of soccer games Jay played in June and July but not in August and September. If Jay played a total of 27 games from June to September, on which month did Jay play the most number of games?

Month	No. of games
June	9
July	10
August	?
September	?

5. In the figure, PQRS is a square. Draw ONE more line WX inside the square so that the square is divided into 4 quarters. What is ∠WOZ?
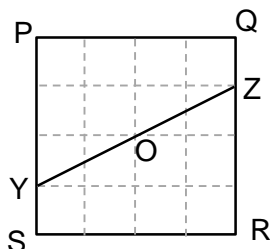
6. What are the values of A and B?

$$\frac{5}{A} = \frac{20}{32} = \frac{B}{24}$$

7. Four sparrows, Mi, Fa, Soh, and La, are sitting on a fence. Mi sits exactly between Fa and Soh. The distance between Fa and Soh is the same as the distance between Soh and La. Mi sits 12 m from La. How far is Fa sitting from La?
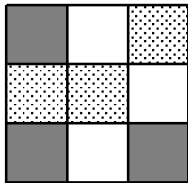
8. Halim made a pyramid using 36 small square tiles. Siti wants to move the tiles to transform the pyramid into a big square. What is the least number of tiles that Siti has to move?
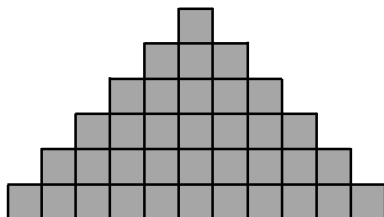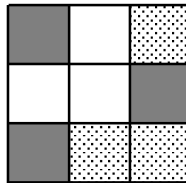
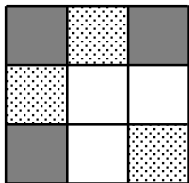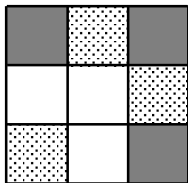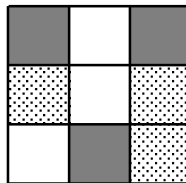9. Which shape will be formed if the two sections were fitted together?
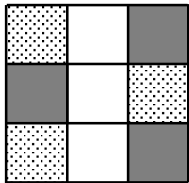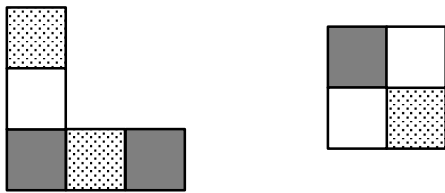
10. Jim is 6 times as old as Tom. If Jim is 40 years older than Tom, how old will Tom be after 6 years?

Section B
Each of the questions 11 to 20 carries 4 marks.

11. Jack, Amy, Jane and Elvis are standing along the road but not necessarily in that order. The distance between Jack and Jane is 10 m, between Amy and Elvis is 15 m, and between Jack and Elvis is 22 m. What is the largest possible distance between Amy and Jane?

12. In the triangle, ABC, AB = AC and M and N are mid-points of AB and AC respectively. AX is perpendicular to BX. What fraction of triangle ABC is shaded?
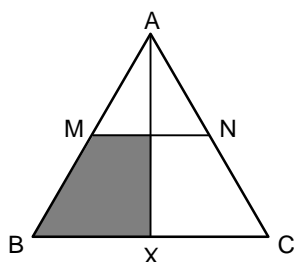
13. Eva arrived at the library 5 minutes earlier than Salim but 3 minutes after Maria.
    Maria left first. She left 2 minutes earlier than Salim and 5 minutes earlier than Eva.
    What is the time difference between the one who stayed for the longest time and the one who
    stayed for the shortest time?

14. What is the digit in the Hundreds place of the product of 44 444 and 99 999?

15. Yani and Zoe collect buttons. Yani only collects buttons with two holes and Zoe only
    collects buttons with four holes. Yani has collected 10 more buttons than Zoe. There is a total
    of 200 holes in all of their buttons. How many buttons do they have altogether?
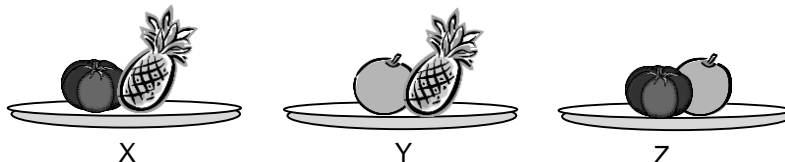
16. Cross out 8 of these numbers so that the remaining 13 numbers add up to 67.

    3 3 3 3 3 3 3
    4 4 4 4 4 4 4
    7 7 7 7 7 7 7

17. Three plates of fruits A, B, and C are arranged in increasing order of their weight.
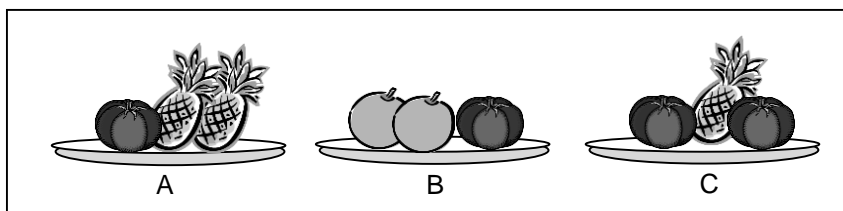
    Arrange the following three plates in increasing order of their weight.

18. There is a total of 22 tricycles and bicycles in a rental shop and a total of 50 wheels. What fraction of all the wheels belong on bicycles?

19. Each of the 4 teams, represented by Red House, Blue House, Green House and Yellow House, sent 2 members to take part in a race. The result at the finish is as follows:

    There is 1 runner between the pair from Red House, 2 runners between the pair from Blue House, 3 runners between the Green pair and 4 runners between the Yellow pair. If the last runner is from Blue House, which Houses do the first three runners represent?

    First runner is from _____ House.

    Second runner is from _____ House.

    Third runner is from _____ House.

20. Tim has a sum of money. If he buys 10 apples, he would be short of $3.
    If he buys 8 apples, he would have 60¢ leftover. How much money does Tim have?

Section C
Questions 21, 22, 23, 24 and 25 carry 6, 7, 8, 9 and 10 marks respectively.

21. Two years after Damei was born, Ermei was born. Four years later, Sanmei was born. This year, Damei is 4 times as old as Sanmei. The bar graph below shows the age of Simei who was born last year. Complete the bar chart below to show the ages of Damei, Ermei and Sanmei.
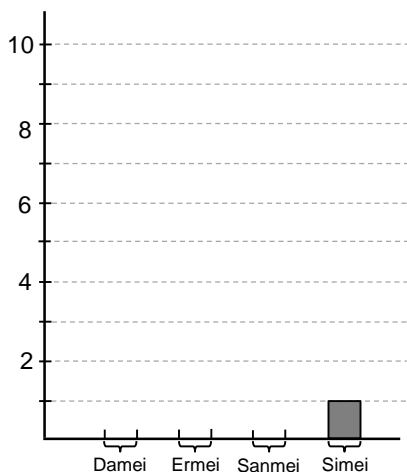
22. A rectangular sheet of paper measures 192 mm by 84 mm. Suppose the sheet is cut into two parts - a square and a rectangle, and the rectangle is further cut into two parts - another square and rectangle. Then this process continues until only two squares remain. What is the length of the side of the smallest square obtained in this way?

23. In the diagram below, *ABCD* is a parallelogram. Also, *P* is the midpoint of *AB* and *Q* is the midpoint of *BC*. If the area of *ABCD* is 24 unit^2, what is the area of triangle *DPQ*?
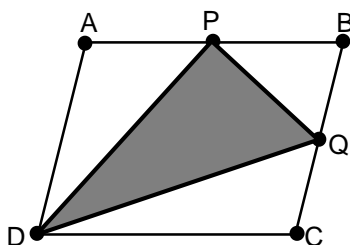
24. In a KenKen 4-by-4 puzzle, the digits 1, 2, 3 and 4, are used to fill the spaces in the grid so that **no digit appears more than once in any row or any column**, and the digits inside the cells (marked by darker lines) add up to the number given inside the cell.

Example:

8 1	4	3	9 2
6 2	3 3	3 1	4
4	6 1	2	3
3	2	5 4	1

For the puzzle below, one of the spaces has been filled for you. Fill in all the remaining spaces.

6	5	5	
		5	7
	2 2		
7		3	

25. If you wrote all the whole numbers from 1 through 8888, how many times would you write the digit 8?

End of Paper