ISMC International Singapore Maths Competition

INTERNATIONAL SINGAPORE MATHS COMPETITION 2016 (Primary 3)

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. Neither mathematical tables nor 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

EDUKULTUR ALPHA ACADEMY LEARNERS' CONNECTIONS

Section A

Each of the questions 1 to 10 carries 2 marks.

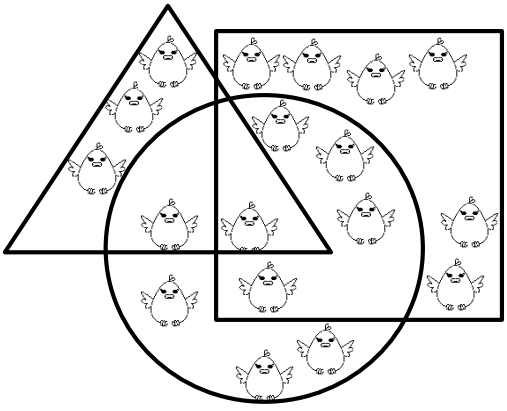
1. If two numbers have a sum of 100 and a difference of 58, what are these two numbers?

2. The numbers 1 to 50 were written into six columns on a piece of paper as shown below. Part of the paper got torn off. In which column was the number 47?

A	B	C	D	E	F
		1	2	3	4
5	6	7	8	9	10
11	12	13	14	15	16
	18	19	20	21	22
			26	27	28

3. Five children were standing in a row.
   Averil stood next to Billy.
   Ellen stood next to Dinah.
   Cybil stood between Billy and Ellen.
   If Dinah stood in the first position, who stood in the fourth position?

4. Esther drew 5 birds inside a triangle, 9 birds inside a circle and 11 birds inside a square. Where and how many more birds should she draw such that there are as many birds outside the square as there are outside the circle?
   Write the letter B at the places where Esther should draw each bird.



5. A number of dots are evenly spaced to form a circle. Dot 230 is opposite dot 107. Which dot is opposite dot 175?

6. Five pupils were asked which of the figures below is/are $\frac{1}{4}$ shaded.

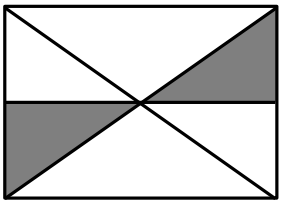


Figure A

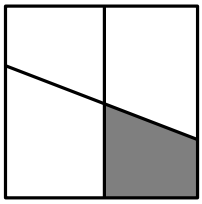


Figure B

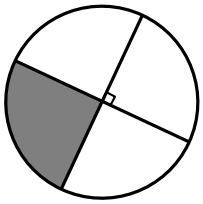
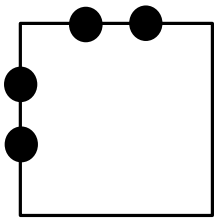


Figure C

Felix says, "Only figure C is $\frac{1}{4}$ shaded."
Eliza says, "Figures A, B and C are all $\frac{1}{4}$ shaded."
David says, "Figures B and C are $\frac{1}{4}$ shaded."
Cindy says, "Figures A and B are $\frac{1}{4}$ shaded."
Bala says, "Figures A and C are $\frac{1}{4}$ shaded."

Which one of the pupils is correct?

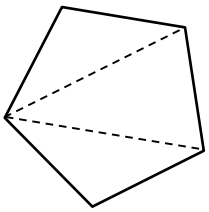
7. Petrus pasted 4 dot stickers along two sides of a square as shown below.



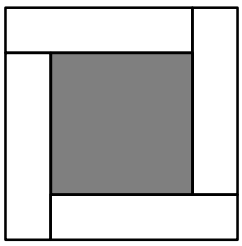
Show where he should paste 5 more stickers so that there are 3 stickers on each side of the square.

8. What is the greatest number of Wednesdays which can occur in 43 continuous days?

9. The figure shows a 5-sided shape drawn with dotted diagonal lines from one corner to two other corners.
In the same way, for a shape which has 50 sides, how many diagonals lines can be drawn from one corner?



10. 4 identical rectangles surround a shaded square. The area of the shaded square is 100 cm^2. If the area of each rectangle is 39 cm^2, what is the perimeter of each rectangle?

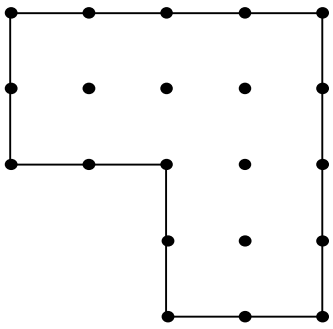


Section B

Each of the questions 11 to 20 carries 4 marks.

11. Amelia was born on 15 January 1999.
Bobby was born on 15 January 2014.
In what year will Amelia be twice as old as Bobby?

12. Draw lines in the figure below to divide it into 4 parts of equal size and shape.

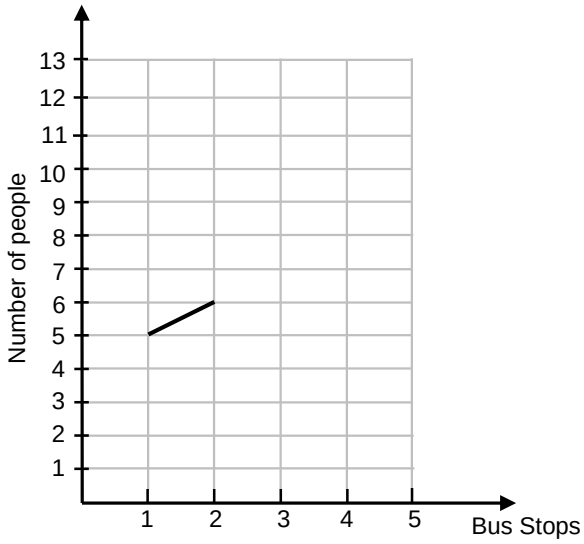


13. Four boys, Rus, Sam, Tim and Val, are seated at each of the four sides of a square table. Rus is sitting on the left of Val. Tim is not sitting opposite Rus.
Who is sitting on the right of Sam?

14. James, Mariam, Siti and Ali took part in a swimming event. Mariam was 6 m behind James and James was 8 m ahead of Siti. Ali was 7 m ahead of Siti. Who was second in the race?

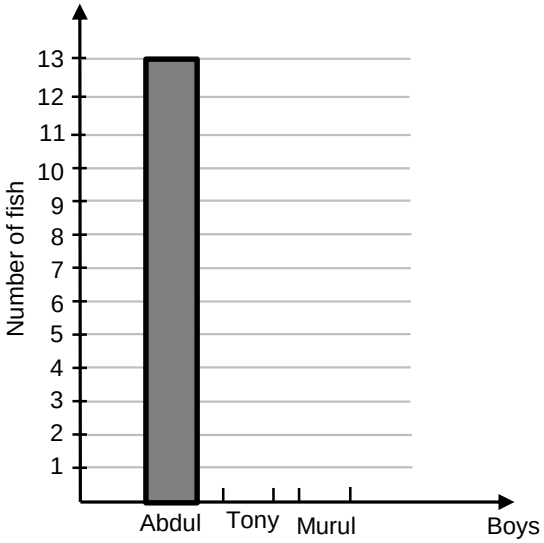
15. There were 5 people on the bus after it left Bus Stop 1. At the next bus-stop, 1 person got on. After that, 2 people got off and 6 people came on at Bus Stop 3. At Bus Stop 4, half the number of people got off. The bus did not stop at Bus Stop 5 because no one wanted to get on or off the bus.

    Complete the line graph to show the number of people on the bus from bus-stops 3 to 5.



16. Abdul, Tony and Murul caught some fish. After Abdul gave Murul 4 fish, all three boys had equal number of fish.

    The number of fish caught by Abdul is shown in the bar graph below. Draw in the bars for the numbers of fish which Tony and Murul caught.

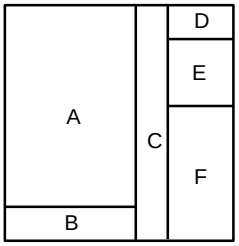


17. The desks in a classroom are arranged in straight rows. John is in the third row from the front and the fourth row from the back. He is also third from the left end of a row and fifth from the right. How many desks are in the classroom?

18. Arrange the following fractions from the smallest to the largest.

$$\frac{10}{13}\ ,\ \frac{4}{7}\ ,\ \frac{1}{4}\ ,\ \frac{7}{10}\ ,\ \frac{1}{2}$$

19. Each of the six parts, A to F, of the square below is coloured using a different colour. The colours are red, pink, green, yellow, white and black. The red part does not touch either the green or the yellow parts even at the corners and the white part does not touch either the pink or the green parts even at the corners. If part E is coloured white, which part is coloured black?

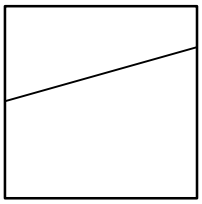


20. The total number of storybooks that John and Ken have is 25.
The total number of storybooks that John and Lionel have is 20.
The total number of storybooks that Ken and Lionel have is 31.
Who has the most number of books? How many does he have?

Section C

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

21. In the diagram below, a straight line is drawn inside a square, dividing it into 2 unequal parts. Draw 3 more straight lines inside the square to divide the square into a total of 11 unequal parts.



22. Five friends wanted to know the number of balloons in a bunch, Kara guessed 25, Kegan guessed 31, Calida guessed 29, Eugene guessed 24 and David guessed 27. Two guesses were wrong by 2; one guess was wrong by 3 and one guess was wrong by 4. Only one guess was correct. Who guessed the correct number of balloons?

23. A bag contains 140 red and yellow balls. After $\frac{1}{4}$ of the red balls and 7 yellow balls were removed, the numbers of red and yellow balls remaining in the bag were the same. How many yellow balls were there originally?

24. Aaron and Harun had 19 coins. After Harun gave Aaron 2 coins, Harun has 1 more coin than Aaron. How many coins did Harun have at first?

25. Bobby, Terence, Evelyn and Mary are the top scorers for Mathematics, English, History and Science but not in that order. (Bobby and Terence are boys while Evelyn and Mary are girls.)

    From the three clues below, complete the chart to find out who is the top scorer for each subject.

    - The History top scorer's twin sister has the highest score for Mathematics.
    - Mary did not do well for Mathematics and History.
    - Terence, who is not good at English, is the only child in his family.

	Bobby	Terence	Evelyn	Mary
Mathematics				
English				
History				
Science				

End of Paper