



Third Term Test - 2016

Mathematics

Grade

8

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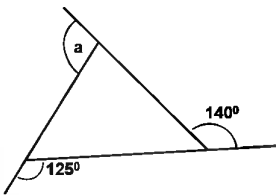
Time: 2hrs

Part I

- Answer all the questions on the paper itself.
- Each correct answer carries 2 marks.

01. Write the first two terms of the number sequence of the general term  $3n-2$ .

02. Find the value of 'a'



03. Factorize,  $x^2 - 3x$

04. Simplify,  $0.35 \div 0.7$

05. Simplify,  $(-8) - (+3)$

06. If  $x = 6$ , find the value of  $(\frac{x}{2})^3$

07. Arrange the given masses in ascending order.

7kg, 0.5t, 4.5kg, 750g

08. Remove the brackets and simplify,  $5(x + 3) = x + 2$

09. Name two shapes which we find in pure tessellation.

10. Sri Lanka is situated in the  $(+5\frac{1}{2})$  time zone a Chicago in America is situated in the  $(-6)$  time zone. Find the time in Chicago when the time in Sri Lanka is 1530h.

11. In a solid having only straight edges, there are 6 vertices and 8 faces. Find the number of edges in it.

12. Write the highest whole number which satisfies the inequality of  $x$ , when  $x + 1 \leq 6$

13. There are 120 students in a school out of these 90 students attended the school on Monday.

i. Write the attendance of that day as a fraction of total number of students of the school.

ii. Write it as a percentage.

14. If  $p = \{\text{The prime numbers less than } 20\}$  find  $n(P)$

15. The following table gives the results obtained by throwing a six sided die numbered from 1 to 6

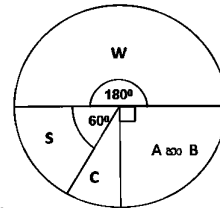
Number	Number of times obtained.
1	10
2	6
3	7
4	11
5	9
6	12

Find the probability of obtaining number 5.

16. If the distance between A and B cities is 12cm in the map which has drawn according to the scale. 1:100000, Find the actual distance between A and B cities.

17. The length, breadth and height of a cuboid shaped tank are 4m, 2.5m and 2m respectively. When the half of that tank is filled with water, Find the volume of water in the tank in liters. ( l )

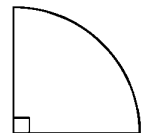
18. The results of mathematics of 36 students who sat for the G.C.E(O/L) examination is given in the pie



chart

- What is the value of the angle of the sector which represents 'C' passes.
- How many students have got the 'C' passes.

19. The arc length of the quarter circle is given in the figure is 24cm. Find the circumference of the circle which has used to cut the above sector.



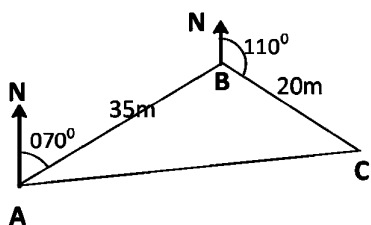
20. Find the minimum number which gives the remainder of two after dividing it by both 3 and 7 separately.

## Part II

- Answer first question and any other four questions.

01. a) A group of students was assigned to keep records about the locations of the office, shrine room and canteen under the activity based on the drawing the plan of the school premises. If you were a member of that group, answer the following questions.

- i. What are the instruments you used to measure bearing and distance? (2 marks)
- ii. Write down two important facts which are used when measuring bearing. (2 marks)
- iii. Given below is a sketch with measurements drawn by your group. The scale is used as 1cm representing 5m, Express that scale as a ratio. (2 marks)



- A - දෛශසඡරු  
 B - යරසබැ  
 C - ස්බම්මැබ

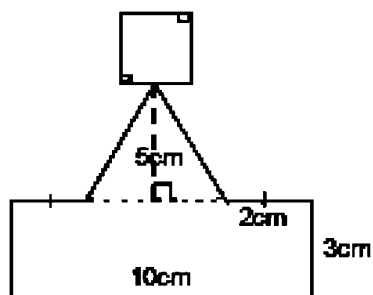
- iv. Taking the scale given in part (iii) draw a scale diagram of the above figure. (2 marks)
- v. Find the actual distance from office to canteen using the scale diagram. (2 marks)

b) In a mixed fruit manufacturing company, the ratio of mixing oranges, mangoes and water is 4:5:6

- i. If the amount of orange juice in the mixture is 400ml, find the amount of water in it. (2 marks)

- ii. Find the amount of mango juice, needed to prepare 30ml of mixture. (2 marks)

02. The given figure shows the sketch of a badge. It consists with a part of rectangular shaped, triangular shaped and square shaped area with perimeter  $4cm^2$ . According to the given measurements.



- i. Find the area of rectangular shaped part. (2 marks)
- ii. Find the length of a side of the square shaped part. (2 marks)
- iii. Find the total area of the symbol. (3 marks)
- iv. If the square shaped lamina is used to make this badge, find the minimum area of that lamina. (2 marks)
- v. The designer says that "50% of the lamina is wasted when making a badge" Describe its correctness or incorrectness by giving reasons. (2 marks)

03. The frequency table shows the marks obtained by a group of students for a mathematics paper which was given by ten marks.

Marks (x)	Frequency (f)	fx
1	1	
2	2	
3	3	
4	6	
5	8	
6	10	
7	5	
8	2	
9	2	
10	1	

- i. Find the mode of the marks. (1 mark)
- ii. Find the median. (2 marks)
- iii. Complete the  $fx$  column and find the mean mark. (6 marks)
- iv. What is the pupil percentage of obtaining more than 60 marks for this paper?(2 marks)

04. a) The mass of the box A is 'x'. The mass of the box B is more than 5kg of twice of the mass of box A.

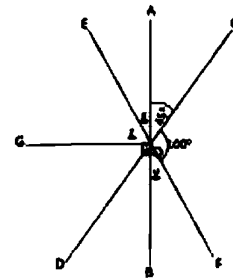
- i. Write down mass of the box B in terms of 'x' (1 mark)
- ii. If the mass of the B is 65kg, build up an equation in terms of 'x'. (2 marks)
- iii. By solving the equation built up in part (ii), find the mass of box A.(2 marks)

- b) i. Simplify,  $5\frac{1}{3} \times 3\frac{3}{4} \div 1\frac{1}{4}$  (3 marks)

- ii. After dividing a white coloured rectangular shaped paper into 4 equal parts in length wise and colour one part using yellow colour. The same paper divided into 3 equal parts in breadth wise and colour one part using red colour. Write down the parts which has coloured using both two colours as a fraction of the whole paper. (3 marks)

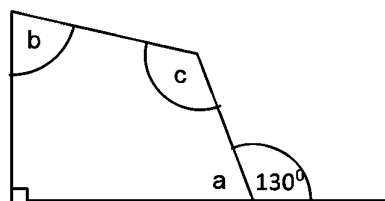
05. a)i. Draw a Cartesian plane with the values of x-axis and y-axis from (-5) to +5. (1 mark)
- ii. Mark the following points in above Cartesian plane and join the points in the given order and take a closed figure. (2 marks)
- (-3,1) (-1,5) (3,5) (5,1)
- iii. Suggest a name for the figure obtained. (1 mark)
- iv. Draw the axis of symmetry of that figure. (1 mark)
- v. Write down the equation of that axis of symmetry. (1 mark)
- b)i. Construct a circle of radius 5.5cm and name its Centre as 'O' (1 mark)
- ii. Draw a chord PQ of length 7cm on that circle. (1 mark)
- iii. Construct the locus of a point equidistant from P and Q points. (1 mark)
- iv. Name the intersected points of the above locus and the circle as A and B. Give a name for that AB straight line. (2 marks)

06. a) According to the information in the figure,



- i. find the values of  $x$ ,  $y$  and  $z$  (6 marks)
- ii. Write the value of the complement. (1 marks)
- iii. Write the value of the supplement of  $70^\circ$  (1marks)

b)



- i. Find the value of ' $a$ ' (1 mark)
- ii. Find the value of ' $b+c$ ' (2 marks)