

බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව - කොළඹ අධ්‍යාපන කලාපය  
 Western Provincial Education Department - Colombo Educational Zone  
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 Western Provincial Education Department - Colombo Educational Zone

දෙවන වාර ඇගයීම - 2014  
 இரண்டாம் தவணை மதிப்பீடு - 2014  
**Second Term Evaluation - 2014**  
 ගණිතය I හා II පත්‍රය  
 கணிதம் வினாத்தாள்-1-11  
**Mathematics Paper I & II**  
 පැය දෙකයි  
 இரண்டு மணித்தியாலங்கள்  
**Two Hours**

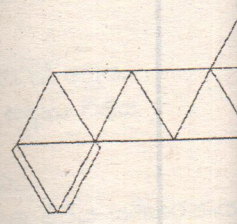
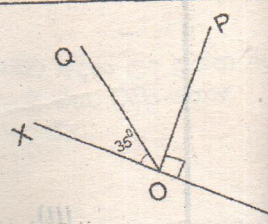
8 ශ්‍රේණිය  
 தரம் 8  
**Grade 8**

Name/Index No : .....

**Part I**

• Answer all questions

- Grade 6, 7 and 8 students went on a tour there were 27 in grade 6 and 36 in grade 7. The total number of students are 94. Find the number of students in grade 8.
- Give in ascending order.  
5.76 kg , 5.67 kg , 5.76g , 5.8 kg , 5000 g
- In a cricket match, the Sri Lankan team had scored 36 runs in 6 overs. How many runs can it make in 10 overs assuming the runrate is the same.
- In the given figure XY is a straight line,  $\angle XOQ = 35^\circ$ ,  $\angle POY = 90^\circ$ , Find the value of  $\angle POQ$ .
- Evaluate  
 $\sqrt{100} - \sqrt{36}$
- Name the solid that can be formed by pasting together section of the template.
- How many  $\frac{1}{5}$ 's are there in 25.





8. Fill in the blank cages.

$$64 = \square^4 = 8^{\square}$$

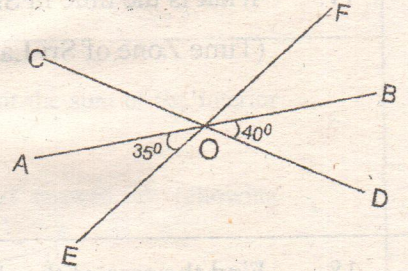
9. Underline the greater value out of the following.

- (i) 15% of Rs. 1000      (ii) 15% of Rs. 100.

10. AB, CD and EF are straight lines.  
According to the information of this figure.  
Find the value of

(i)  $\hat{F}OB$  .....

(ii)  $\hat{A}OF$  .....



11. Given that  $12 = 2 \times 2 \times 3$

$$18 = 2 \times 3 \times 3$$

$$30 = 2 \times 3 \times 5$$

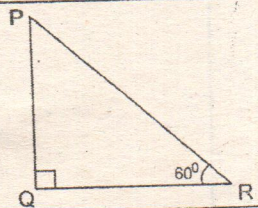
Find (i) H.C.F. of 12, 18 and 30.

(ii) L.C.M. of 12, 18 and 30.

12. Simplify;  $\frac{(35) \times (-18)}{(-21) \times (-30)}$

13. If  $x = \frac{1}{2}$ , find the value of  $4x - 1$

14. Consider the triangle PQR.  
Write down the ratio of  $\hat{P} : \hat{Q} : \hat{R}$  in simplest form.



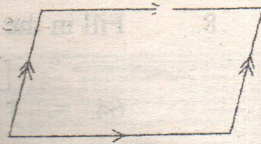
15. If  $X = \{\text{odd numbers between 10 and 20}\}$

(i) Write the set X with elements.

(ii) Find the number of elements in X



16. (i) How many symmetrical axis are there in a parallelogram.

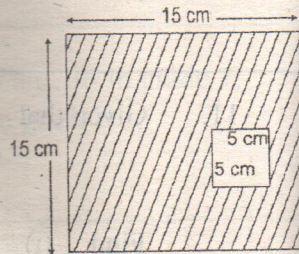


(ii) Write down the order of rotational symmetry of a parallelogram.

17. What is the time in Sri Lanka when the Greenwich time is 1530h.  
(Time Zone of Sri Lanka +  $5\frac{1}{2}$ )



18. Find the area of the shaded part.

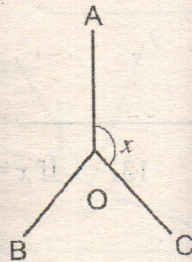


19. Simplify ;  $\frac{1-0.25}{0.75}$

20. In the given figure  $\hat{AOC} = x^\circ$ ,  $\hat{AOB}$  is greater than  $\hat{AOC}$  by  $20^\circ$ ,  $\hat{BOC}$  is less than twice  $\hat{AOC}$  by  $20^\circ$ .

(i) Express the sum of the three angles in terms of  $x$ .

(ii) Build up the equation and find out the value of  $x$ .



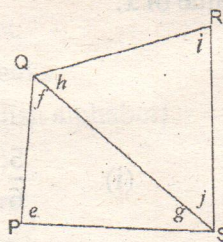
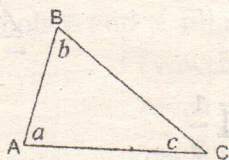


**Part II**

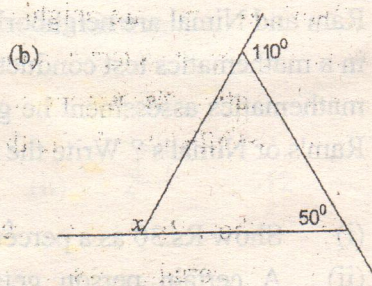
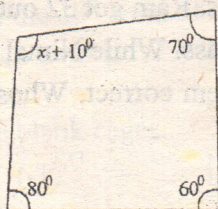
- Answer the first question and any other four questions.
- 16 marks for the first question and 11 marks for each others.
- Answer the second part in a separate paper where it is necessary and attach it to the Part I

1. Remember the activity you have done in your class room about the sum of the interior angles of a quadrilateral.

Consider the triangle ABC and the quadrilateral PQRS and answer the following questions.

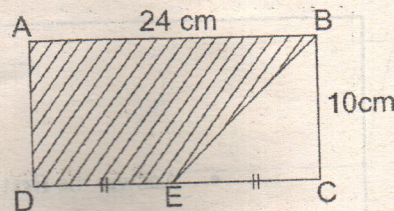


- What is the sum of the interior angles of a triangle.
- Fill in the blanks.  
 $a + b + c = \dots\dots\dots$   
 $e + f + g = \dots\dots\dots$   
 $h + i + j = \dots\dots\dots$
- Write the sum of interior angle of the quadrilateral PQRS in terms of  $e, f, g, h, i$  and  $j$ .
- Show that  
 $e + f + g + h + i + j = 360^\circ$
- What is the sum of interior angle of a quadrilateral.
- If each of the set below stands for the interior angles of a quadrilateral, find the value of  $x$ .  
 (a)  $A = \{75^\circ, 55^\circ, x^\circ, 90^\circ\}$   
 (b)  $B = \{x^\circ, 2x^\circ, 3x^\circ, 4x^\circ\}$
- According to the information of these figures, find the value of  $x$ ;

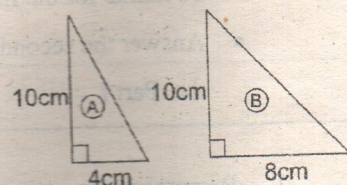




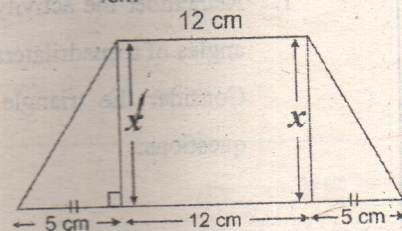
2. (a) In the rectangle ABCD. E is the mid point of DC.
- Write the length of EC
  - Find the area of rectangle ABCD.
  - Find the area of the triangle. BCE
  - Find the area of the shaded part.



- (b) Write the ratio between the area of triangle A and the area of triangle B in simplest form.



- (c) The area of the given figure is  $136 \text{ cm}^2$ . Find the value of  $x$ .



3. (a) Simplify; (i)  $\frac{5}{6} - \frac{2}{5} + 1\frac{1}{3}$  (ii)  $2\frac{2}{7} \div 1\frac{1}{3}$

(b) Simplify ; (i)  $5.4 \times 100$   
 (ii)  $24 \div 0.01$   
 (iii)  $0.3 \times 0.12$

(c) Taking  $98 = 49 \times 2$  and  $72 = 36 \times 2$ , find the value of  $\sqrt{98 \times 72}$

(d)  $\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$ ,  $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$ ,  $\frac{1}{4} + \frac{1}{5} = \frac{9}{20}$

Find the answer of following two additions directly by observing the process shown in top.

(i)  $\frac{1}{15} + \frac{1}{16}$  (ii)  $\frac{1}{31} + \frac{1}{30}$

4. (a) From among the fractions and percentages below, find the largest number in each case.

(i)  $\frac{3}{4}$ , 76% (ii)  $1\frac{1}{5}$ , 116%

- (b) Ram and Nimal are neighborhood friends. Ram got 32 out of 40 questions correct in a mathematics test conducted in his class. While Nimal got 25 questions for his mathematics assessment he got 21 of them correct. Whose performance is better Ram's or Nimal's? Write the reason.

- (c) (i) Show Rs.30 as a percentage of 50.  
 (ii) A certain person gets an income of Rs.40 000 a month. He spends Rs.12 000 on food. Show the amount he spends on food as a percentage of his income.



5. (a) Solve

(i)  $4x - 1 = 31$

(ii)  $\frac{2x}{5} + 1 = 9$

(b) The amount of money Vimal has is Rs.20 less than twice the amount of money Kumar has.

(i) Taking the amount of money, Kumar has as  $x$ , write an algebraic expression for the money Vimal has.

(ii) Write an algebraic expression for the money both of them have.

(iii) If the amount both of them have is Rs. 280, write an equation with  $x$ .

(iv) By solving the above equation, find the amount of money Vimal has.

(c) Factorise

$4x^2 + 8x + 2x^3$

6. (a) Write an example for null set or empty set.

(b) Using the symbols  $\in$  and  $\notin$ , fill in the blanks.

(i) a ..... {vowels in English alphabet}

(ii) 2 ..... {even numbers}

(iii) 5 ..... {square numbers}

(iv) 20 ..... {multiples of ten}

(c) The ratio of the amount spent by a person for food and cloths is 5:3; and ratio for cloth and other expenditure is 2 : 1, He spent Rs. 20 000 on food.

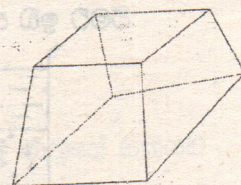
(i) Write the common ratio of food, cloth and other expenditure in simplest form.

(ii) Find the monthly income of that person.

(d) Consider the solid

(i) How many faces are there ?

(ii) How many edges are there.



7. (a) 1, 5, 9, 13, .....

(i) What is <sup>the</sup> difference between any two terms.

(ii) Complete the blanks and find the general term.

$\square \times 1 - 3 = 1$

$\square \times 2 - \square = 5$

$\square \times n - \square$

(iii) Find the 10<sup>th</sup> term of the above number pattern.

(iv) Which term is 77

(b) Fill in the blank cages.

(i)  $(-1)^{23} = \square$

(ii)  $2^{\square} = 512$

(iii)  $\square^4 = 81$