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**Royal College - Colombo 07**

වර්ෂ අවසාන ඇගයීම - 2021  
Year End Evaluation - 2021

Grade -7

Mathematics

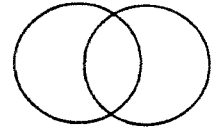
Time - 02 hours

Name : ..... No : ..... Class : .....

Part I

- Answer all questions on this paper itself
- Each question carries two marks.

01. Write down the number of symmetrical axes in the figure and draw them.



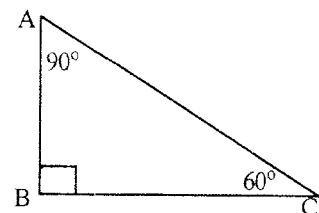
02. If  $A = \{ \text{Composite numbers between 0 and 11} \}$  write down the set A with its elements and write down the number of elements.

03. Write down the digital root of 8528.

04. Is 2600 AD a leap year? Give reasons.

05. Simplify:  $(+5.5) + (-8.7)$

06. Write down the value of  $(a^\circ + b^\circ)$  of the triangle ABC.



07. Express 2 hours and 45 minutes as a ratio in its simplest form.

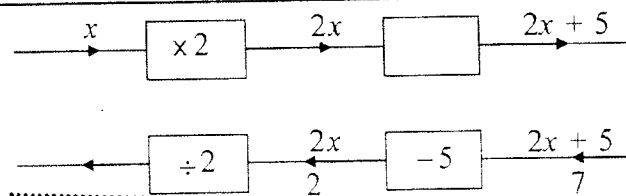
08. Simplify:  $9x + 8 - 7x - y - 4$

09. If  $p = xy - 15$ , find the value of  $p$  when  $x = 5$  and  $y = 10$ .

10. Length, breadth and the volume of a cuboid shaped solid are 5 cm, 4 cm and  $60 \text{ cm}^3$  respectively. Find the height of the solid.

11. In a scale diagram 8 m are represented by 2 cm. Express the scale as a ratio.

12. Fill in the blanks.



13. A bus leaves Colombo at 7.30 a.m. and reached Anuradapura at 1.00 p.m. Find the time taken for the journey.

14. Select the larger number from  $4^3$  and  $3^4$ .

15. Simplify:

	m	cm
	8	50
	<u>-3</u>	<u>70</u>
	<u>          </u>	<u>          </u>

16. Length of a square is  $(x + 3)$  cm. Write down an algebraic expression for the perimeter.

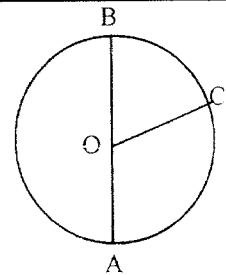
17. Fill in the blanks using '<' or '>'

$$7\frac{3}{8} \dots 7\frac{1}{3}$$

18.  $O$  is the centre of the circle. Write down the names of  $OC$  and  $AB$ .

$OC$  - .....

$AB$  - .....



19. Find the *LCM* and *HCF* of 12, 18 and 24 using following products.

$$12 = 2 \times 2 \times 3$$

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

$$24 = 2 \times 2 \times 2 \times 3$$

20. Fill in the blanks using suitable words.

(a) The tessellation made by using one or more shapes is called ..... tessellation.

(b) The sum of the angles around a vertex is ..... in a tessellations which are made by using rectilinear plane figures.



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Grade - 7

Mathematics

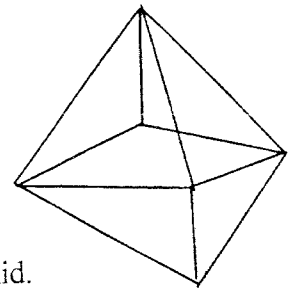
Part II

- \* Answer the first question and **another 04** questions.  
\* First question carries **16** marks and other questions carries **11** marks each

01. (a) The following table shows the information about the attendance of students in Grade 7 of a certain school reopening after Covid 19 pandemic.

Class	1 <sup>st</sup> week	2 <sup>nd</sup> week	3 <sup>rd</sup> week
7A	20	30	35
7B	40	35	05
7C	20	15	30

- (i) Draw a multiple column graph to represent the above data.  
(ii) When 3 weeks are concerned, which class shows the improvement of students' attendance?  
(iii) When 3 classes are concerned, which class shows the least attendance.  
(iv) This period is concerned, write down a reason for the least students' attendance for 3<sup>rd</sup> week of class 7B.
- (b) The following solid is obtained attaching two same size square based pyramids.



- (i) Write down the number of faces, vertices and edges.  
(ii) Show that the Euler's relationship is satisfied for this solid.
02. Draw a Cartesian plane representing 0 to +10 on  $x$  and  $y$  axes.
- (i) Mark the following points on the above Cartesian plane.  
A (1, 6)      B (5, 10)      C (9, 6)      D (6, 6)  
E (6, 1)      F (4, 1)      G (4, 6)
- (ii) Join the above points in the order so that a closed figure is obtained.  
(iii) Draw the axis of symmetry of the above figure.

3. Using the straight edge and the pair of compass, do the following constructions.

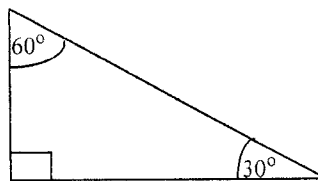
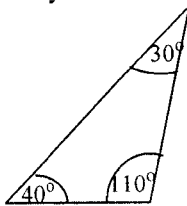
- (i) Construct a circle with a radius 4 cm. Name the centre as  $O$ .
- (ii) Construct a regular hexagon so that the vertices lie on the above circle.
- (iii) Name the vertices of the above hexagon as  $PQRSTU$ .
- (iv) Construct an equilateral triangle so that  $PQ$  is one side and  $O$  is one vertex which is located inside the circle.
- (v) Using the protractor measure and write down the magnitude of  $\hat{POQ}$ .

4. (i) Simplify:

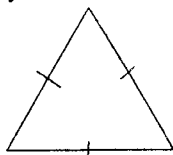
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 3 \quad 250 \\ \times \quad 4 \\ \hline \hline \end{array}$$

- (ii) Simplify  $8 \times (35 - 25) \div 10$
- (iii) Express 96 as a product of prime factors and express as powers. (Index form)
- (iv) Simplify:  $5\frac{3}{4} - 2\frac{1}{8}$
- (v) Probability of germinating a certain seed is 85%.
  - (a) Express this as a fraction.
  - (b) Express this as a decimal.

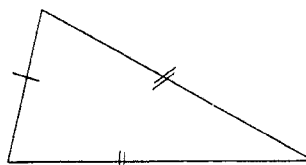
5. (i) Draw a convex polygon and a concave polygon.  
 (ii) What is a regular polygon.  
 (iii) Classify the following triangles according to the angles.



(iv) Classify the following triangles according to the sides.



(c)



(d)

- (v) Draw the reflex angle  $\hat{ABC}$  such that  $\hat{ABC} = 300^\circ$  by using a protractor.

6. (a) Flour, Sugar and butter are mixed to manufacture a certain biscuit in the ratio of 5: 3: 1.
- Express the each ingredient in the mixture as a fraction.
  - Find the flour amount needed to make the mixture of 3.6 kg in kilograms.
- (b) A father owns a certain land. He gave 0.3 of it to his wife and  $\frac{3}{5}$  of it to his three children equally. And he kept the remaining portion with him.
- Express the portion given to three children as a percentage.
  - Express the portion given to wife as a fraction.
  - Find the portion remaining with him.
7. (i) Write down an instance that we have to draw a scale diagram in our day to day life
- (ii) The length and the breadth of a rectangular shaped land are 240 m and 160 m respectively. To draw the scale diagram of it in the scale 1:4000,
- Find the length of the scale diagram.
  - Find the breadth of the scale diagram.
  - Draw the scale diagram.
  - Find the perimeter of the scale diagram.
  - Find the area of the scale diagram.

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