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 முழுப் பதிப்புரிமையுடையது.
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18.11.2016

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 மேல் மாகாணக் கல்வித் திணைக்களம்
 Department of Education - Western Province

වර්ෂ අවසාන ඇගයීම
 ஆண்டிறுதி மதிப்பீடு - 2016
 Year End Evaluation

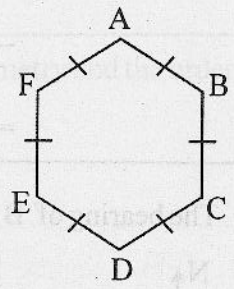
ශ්‍රේණිය } 08 தரம் } Grade }	විෂයය } பாடம் } Mathematics Subject }	පත්‍රය } வினாத்தாள் } I, II Paper }	කාලය } காலம் } 02 hours Time }
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Name :- Index No. :

Part I

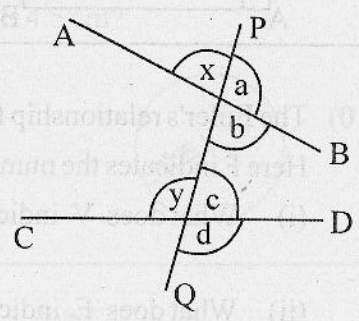
- Answer the questions 1 to 20 on this paper itself.
- Each question carries 02 marks.

(01) Find the perimeter of the regular hexagon ABCDEF with the length of a side 5cm.



(02) The straight lines AB and CD are intersected by the transversal PQ. According to the figure, join the angles given in (1) and (2) to the relevant type of the angle.

- | Angles | Type of the angle |
|-------------|----------------------------|
| (1) b and c | Vertically opposite angles |
| (2) b and y | Adjacent angles |
| (3) x and y | Allied angles |
| | Alternate angles |
| | Corresponding angles |



(03) Simplify. (+7)-(-3)

(04) Solve the equation. $\frac{x}{2} + 1 = 5$

(05) $\sqrt{\frac{9}{25}}$ Find the square root.

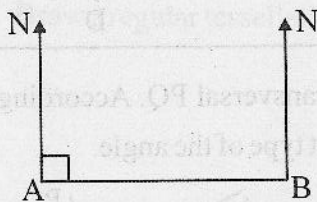
(06) $4^3 \times \dots = 28^3$. Write the suitable value for the blank.

(07) Simplify. $\frac{5}{7} \times 1\frac{1}{5}$

(08) Find the value.

t	kg
23	59
<hr/>	
+ 4	997
<hr/>	
<hr/>	

(09) The bearing of B from A is 090° . Write the bearing of A from B.



(10) The Euler's relationship for solids with plane surfaces is given by $V + F = E + 2$.

Here F indicates the number of faces in the solid.

(i) What does V indicates?

(ii) What does E indicates?

(11) When the time in (-6) time zone is 1530h on Sunday, what is the time in Greenwich?

(12) In a certain scale diagram 2km are represented by 1cm. Write this scale as a ratio.

(13) Write the largest whole number solution of the inequality $5x - 2 \leq 4x + 1$

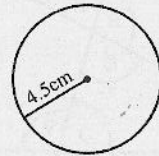
(14) Jagath's monthly salary is Rs. 37 900. His salary got increased by 10%.

(i) What is the increased amount?

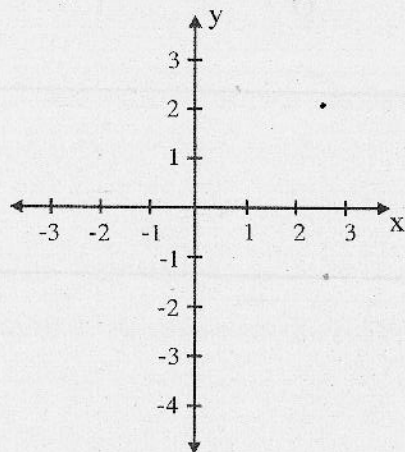
(ii) What is his new salary?

(15) Draw a regular plane figure with both the number of axes of symmetry and the order of rotational symmetry are 4.

(16) What is the length of the diameter of a circle with the radius 4.5 cm?



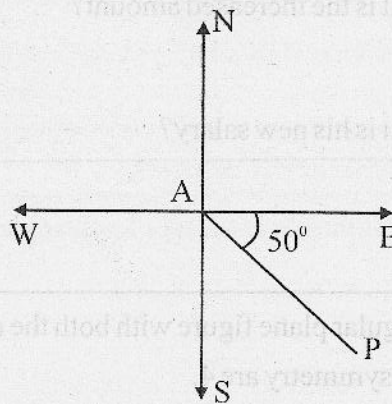
(17) Draw the lines $x = -3$ and $y = 2$ on the given Cartesian plane and name those lines.



(18) A card is taken randomly from a pack of cards, marked 1 to 10 on each card. Find the probability of obtaining a card with a multiple of 4.

(19) Select and underline the suitable expression which indicates the location of P from A.

- (1) N 50° S
- (2) S 50° E
- (3) E 40° S
- (4) S 40° E



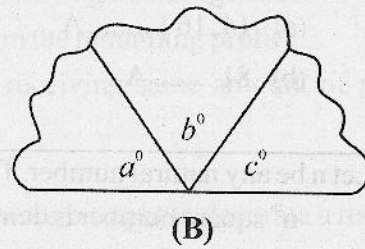
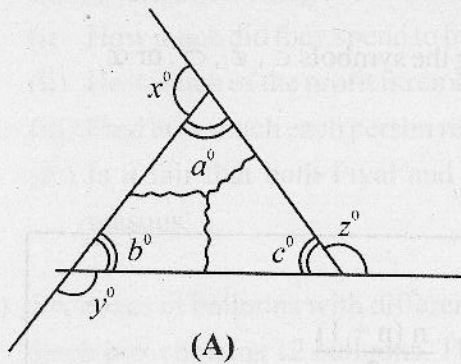
(20) Draw a regular tessellation which can be constructed using a square.



Part - II

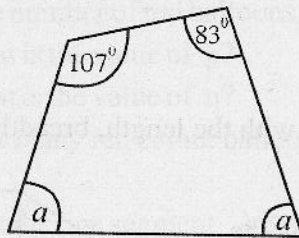
- Answer the first question and another 04 questions.
- First question carries 16 marks and the other questions carry 11 marks each.

(01) Recollect the activity that you have done with the assistance of your mathematics teacher, regarding the angles of triangles and quadrilaterals.

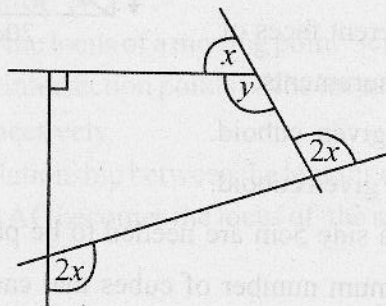


The interior angles of a triangle were cut and pasted again. Then a figure similar to B was obtained.

- What is the value of $a^\circ + b^\circ + c^\circ$?
- What is the value of $x^\circ + y^\circ + z^\circ$?
- Write the ratio $(a^\circ + b^\circ + c^\circ) : (x^\circ + y^\circ + z^\circ)$ in its simplest form.
- If $a^\circ = 64^\circ$ and $b^\circ = 52^\circ$, find the value of c° .
- The exterior angles of a certain triangle named PQR are $9y$, $13y$ and $14y$ respectively. Find the value of the smallest exterior angle.
- What type of a triangle is PQR?
- According to the figure, find the value of 'a'.



(viii) According to the given figure, find the value of x and y .



(02) (a) $A = \{\text{Square numbers between 20 and 130}\}$

$A = \{25, 36, 49, 64, 81, 100, \dots\}$

(i) Write the remaining element and complete the set A, which is written by listing its elements.

(ii) Write $n(A)$.

(iii) Fill in the blanks given below using the symbols \in , \notin , \subset , or $\not\subset$

(a) $\{4, 16\} \dots\dots A$

(b) $81 \dots\dots A$

(b) Let n be any natural number. Then,

n^{th} square number is denoted by n^2

n^{th} triangular number is denoted by $\frac{n(n+1)}{2}$

(i) What is the 15th square number?

(ii) What is the 14th triangular number?

(iii) What is the sum of the 14th and 15th triangular numbers?

(iv) What is the relationship between the answers obtained in (i) and (iii)?

(03) (i) Remove the brackets and simplify $3(2x+1)+2(x-5)$

(ii) Factorize. $10a^2+15ab-5ab^2$

(iii) Substitute $a=4, b=2$ and find the value of $10a^2+15ab-5ab^2$

(iv) Find the value. $52.2 \div 0.09$

(04) The figure shows a cuboid shaped box with the length, breadth and height are 20cm, 15cm and 10cm respectively.

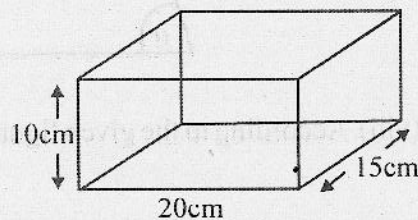
(i) What is the shape of the faces of the given solid?

(ii) According to the measurements given in the figure, draw three different faces of the solid with relevant measurements.

(iii) Find the surface area of the given cuboid.

(iv) Calculate the volume of the given cuboid.

(v) Cubes with the length of a side 5cm are needed to be packed inside the above cuboid. What is the maximum number of cubes that can be packed inside the above cuboid shaped box?

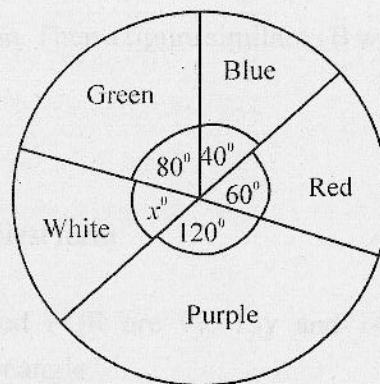


(05) Piyal, Aravinda and Sugath are three friends. Piyal started a business by investing Rs.50 000. After two months Aravinda joined the business by investing Rs. 60 000. After another two months, Sugath joined the business by investing Rs. 70 000. After one year they gained a profit of Rs.44 000 from their business. They spent 70% of the profit to buy a refrigerator for their business and the balance was divided among the three friends according to the money and the period of investment.

- How much did they spend to buy a refrigerator?
- How much of the profit is remaining after buying the refrigerator?
- Find how much each person received from the remaining profit?
- Is it fair that both Piyal and Aravinda receiving same amount of profit? Give reasons.

(06) Six boxes of balloons with different colours were brought to decorate a reception hall. Each box contains 12 balloons. The number of balloons brought from each colour is given in the following pie chart.

- How many balloons in total were brought for the decorations?
- what is the magnitude of the angle at the sector which represents by x° ?
- Number of balloons in two colours are same. What are those colours?
- There were 8 blue colour balloons. How many purple colour balloons were there?
- Express the ratio between the minimum number of balloons and the maximum number of balloons in simplest form.
- To get the number of red balloons, Piyal used the mathematical relation $\frac{60}{p} \times q$
 - What is the value of p ?
 - What is the value of q ?
 - How many red colour balloons are there?



- Construct the line segment $AB = 8\text{cm}$.
- Construct the angle $\hat{B}AC = 40^\circ$ on the line AB , using the protractor.
- Draw the angle $\hat{C}AD = 40^\circ$ on the line AC , such that AD and AB are situated either sides of AC .
- Construct the locus of a moving point 3cm away from the point A .
- Name the intersection points of the locus and the lines AB , AC and AD as P , Q and R respectively.
- Write a relationship between the lengths of the sides AP , AQ and AR .
- Why does AC becomes the locus of the moving point equidistant to the lines AB and AD .