දෙවන වාර ඇගයීම		– 2017
இரண்டாம் தவணை மதிப்பீடு		– 2017
Second Term Evaluation		– 2017

8 ශ්‍රේණිය தரம் 8 Grade 8	ගණිතය கணிதம் Mathematics	පැය දෙකයි இரண்டு மணித்தியாலங்கள் Two Hours

Name/Index No : ....

PART I

- *Answer **all questions** on this paper itself.*
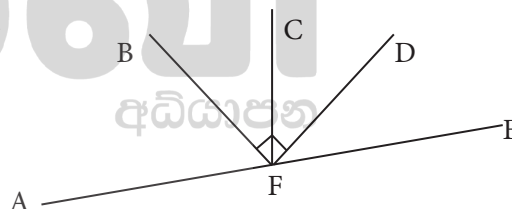- *Each question gets 2 marks.*

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1. Find the next term of the number pattern.

    3, 6, 10, 15, ...

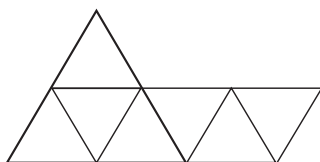2. Arrange the following in ascending order.

    57.0mm, 5.70m, 5.7 cm

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3. Name a pair of complementry angles of the given diagram.

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4. Evaluate $\sqrt{36} - 6$

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5. An incomplete net of an octahedron is given below. Complete the rest.

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6. Give five $\frac{1}{3}$ s as

    i) An improper fraction

    ii) A mixed number

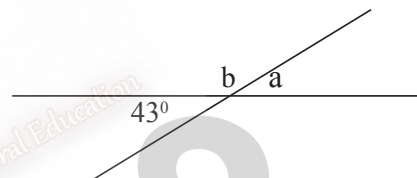7. Draw a rhombus, Does it has the bi-lateral symmetry? If so, draw it.

8. Find the value of $(+3) - (-4)$ using the given number line.

9. Arrange the following in descending order.

$(-1)^4, (-1)^3, (-2)^3$

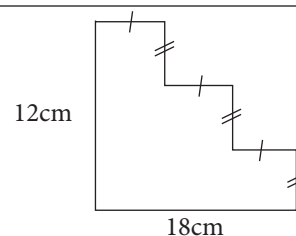10. Find the magnitude of a and b of the given diagram.
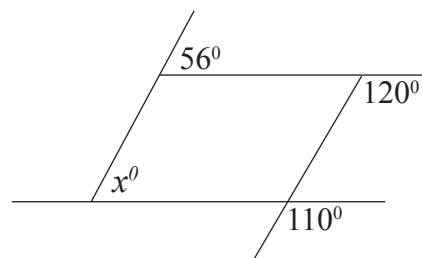

11. Solve $2x + 3 = 15$

12. Calculate the total surface area of a cube of side 60 cm.

13. Write an equivalent ratio to 3:4

14. Calculate the perimeter of the given figure.

12cm

18cm

15. Find the value of x

56°
120°
x^0
110°

16. The city Daca is in +6 time zone in Bangladesh. The country Chillie lies in -5th time zone. If the time in Daca is 18:30, find the time in Chillie.

17. 30% of the students didn't come to the class on that day since it was raining. If there were 28 students present on that day find the total number of students in that class.

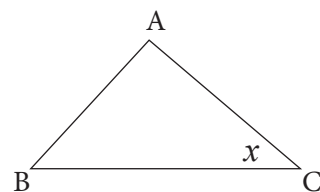18. Find the factors $12ax^2 - 6a^2xy$

19. Simplify

kg	g		t	kg
12	50		12	50
2	90 +		2	90 −

20. Let $A\hat{C}B = x$

Angle $A\hat{B}C$ is twice as $A\hat{C}B$

the angle $B\hat{A}C$ is 30 less than twice the angle of $A\hat{C}B$.
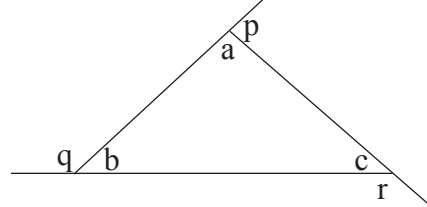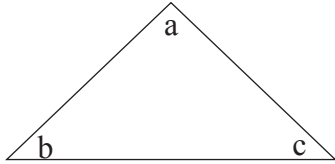
Construct an algebraic equation and find the magnitude of x by solving it.

A
x
B   C

PART II

- *Write the answers for the **question number 1** and **four others** on a separate paper and attach it to the Part I.*

- *Question No 1 carries 16 marks and, all the others get 11 marks each.*

1.

Recall the memory of the activity done in the class room regarding the sum of the interior angles and the exterior angles of a triangle, answer the following questions.

i)   Complete the blanks   a)   a + b + c   = ...

                            b)   a + p   = ...

                            c)   b + q   = ...

                            d)   c + r   = ...

ii) According to that show that a + b + c + p + q + r = 540⁰

ii) According to that show that $a + b + c + p + q + r = 540^0$

iii) Using the above answer find the sum of p + q + r

iv) According to that what is the sum of the exterior angles of a triangle.

v)   Find the values of the angles given in the following figures. a, b, c, d, x
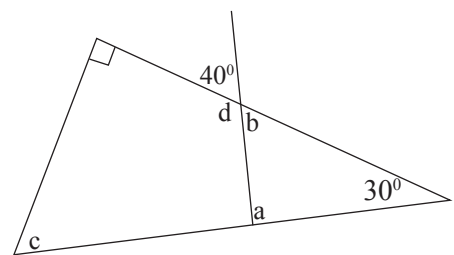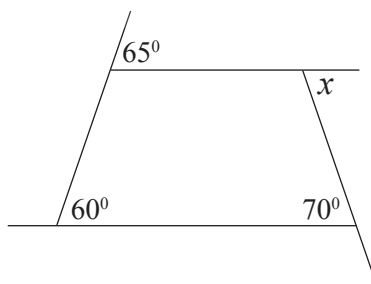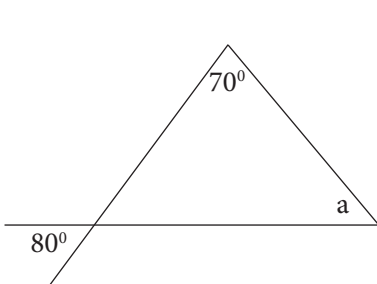
vi) a) Can 70^0, 60^0 and 70^0 be an interior angles of a triangles?

    b) Can 100^0, 120^0, 110^0 be an exterior angles of a triangle?

    c) Can 90^0, 90^0, 70^0, 110^0 be an interior angles of a quadrilateral?

2. a) Solve   a) $5x - 7 = 33$ b) $\frac{2}{3}x + 1 = 7$ c) $5(2x - 3) = 35$

b) There are three types of Rubic cubes in a shop for sale as follows.

Price of a cube of type A = Rs. 450

Price of a cube of type B = Rs. 250

Price of a cube of type C = Rs. 150

One day, x number of type A,

y number of type B and 4 cubes of type C was sold.

Give the following as an algebraic expressions.

i) Total number of Rubic cubes sold.

ii) The total income by selling them.

iii) If $x = 8$ and y = 6 then find the total income of that particular day.

c) Evaluate

i) (-5) + (+3) =   ii) (-5) + (+3) =   iii) (-5) × (-3) =

3. a) Kamal started a business in 1st of January 2016 investing Rs. 35 000. After 3 months Shiva joined by investing Rs. 56 000. After another two months Cassim joined by investing Rs. 60 000. There profit after one year is Rs. 128 000. They decided to share the profit according to the time and the investment.

i) Give the simplest ratio of the profit distribution among three of them.

ii) According to that calculate the amount they get separately.

b) i) In another year Kamal get Rs. 14 000 as his profit, calculate the percentage of the profit out of his investment Rs. 35 000.

ii) If Shiva gets Rs. 19 200 as his profit in another year, give the profit as a fraction out of his investment Rs. 56 000.

c) Flour and sugar is mixed to the ratio 6:5 and flour and butter is mixed as 4:3 to make some sweets. Give the compound ratio between flour, sugar and butter in simplest form.

4. a) i) Find the area of Δ ABF and rectangle BCDE.
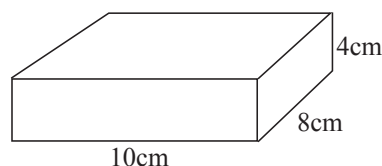
ii) If the area of Δ AFE is 24cm², find the length of AF.

iii) Then find the area of ABCDEF sheets.

iv) If this plane shape is removed from a square piece of carboard sheet of side 15cm find the area of the remaining sheet.
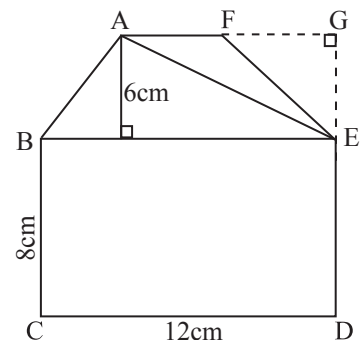
b) Calculate the total surface area of the given cuboid.

5. a) Simplify

    i) $1\frac{2}{3} - \frac{1}{6} + \frac{1}{2}$ ii) $\frac{3}{5} \times \frac{1}{2} \div 3\frac{1}{3}$ iii) $3\frac{1}{4} \div 6\frac{1}{2}$

    b) Arrange these in ascending order.

    $0.56 , 65\% , \frac{3}{5}$

    c) In an assessment, Tharaka got 12 out of 25 for Mathematics and for science 16 out of 20.

        i) Give the percentage of marks of Mathematics.

        ii) Find the percentage of marks of Science.

        iii) Which subject he has done better.

6. a) i) What is a null set?

        ii) Give an example for a null set.

    b) Complete the blanks with $\in$ or $\notin$

        i) 1 .... {Prime Numbers}

        ii) Hen .... {Quadrupants}

        iii) a .... {vowel of an alphabet}

    c) i) List out the following sets with in curly brackets.

            A = {multiples of 12 between 0 and 10}

            B = {The letters of the word "KALAPALUWAWA"}

            C = {even numbers between 0 and 10}

        ii) Find n(A), n(B), n(C) according to that.

7. a) Consider the number sequence 10, 13, 16, 19, ...

        i) Find the difference between two consecutive terms.

        ii) Complete the blanks   10   = $\Box \times 1 + 7$

                                    13   = $\Box \times 2 + \Box$

                                    16   = $\Box \times \Box + \Box$

                                    n^{th} term = $\Box \times n + \Box$

        iii) Find the 12th term of the above sequence.

    b) i) Find the smallest number which is divisible by 2, 3, 4 and 5 with out a remainder.

        ii) Find the highest common factor of 30 and 48