V/ Vavuniya Tamil Madya Maha Vidyalayam - 2018
First Term Examinations
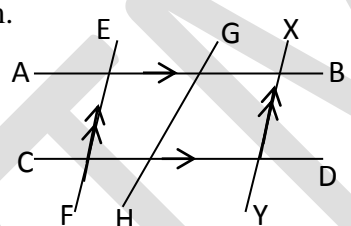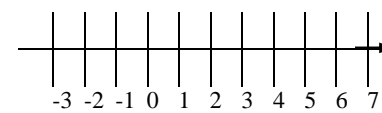
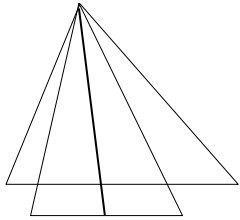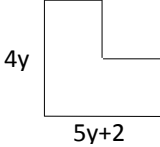**Grade: 8**   **Mathematics**   **Time: 2hrs. 30min.**

Part I

Answer all the questions in the question paper itself.

|	
1. When 1kg of sugar was Rs.120, Mala bought 0.5kg of sugar giving Rs.100. How much money should she get as the balance?	2. Write in words: $\frac{x}{3} + 4$
3. Simplify: $6 + (-4) + (-5)$	4. Simplify: $0.24 + 1.3$
5. Write two pairs of parallel lines from the given diagram.	6. Find the value of $4 - (-2)$ using number line.
7. Remove brackets: $4(2x - 3)$	8. Evaluate: $\sqrt{484}$
9. Find the LCM of 5, 8 and 15.	10. Remove brackets and simplify: $$5(3a + 2b) + 2(2a - b)$$

11. What is the supplementary angle of 108^0?	12. Write 4.25t in kg.
13. Evaluate: $\sqrt{27} \times \sqrt{12}$	14. Find the HCF of 16, 36 and 72.
15. Factorize: $2x^2 - 50$	16. Fill in the blank: $$\frac{\Box}{(-3)} = (-8)$$
17. For a dodecahedron i. What is the shape of one face? ii. What is the number of edges?	18. How many triangles are there in the given figure?

19. Find the perimeter of the given figure.	20. Write in ascending order: $\frac{9}{2}, \frac{5}{8}, \frac{1}{12}, \frac{3}{100}, \frac{1}{5}$
4y 5y+2	

Part - II

Answer five questions including the first one.

1. The following figures show how some sticks were arranged for an assessment activity:

a   b   c
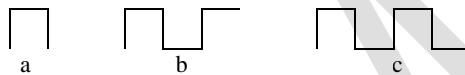
   i.   How many sticks are there in each of the figures?

   ii.   Draw the next shape of this pattern.

   iii.   Write the first five terms of the number pattern of the number of sticks in these figures.

   iv.   Multiples of which number is this number pattern? What is the general term of this pattern?

   v.   Find the 15th term of this pattern.

   vi.   Which term is 372 in the number pattern?

   vii.   Which is the smallest multiple of three, which is greater than 200? Which term is it in the number pattern?

   viii.   Karthi saved money in the pattern that he saved Rs.1 on the 1st day, Rs.2 on the 2nd day, Rs.3 on the 3rd day and so on. How much money would he save in 15 days?

(8x2 = 16)

2.

   i.   Find the perimeter of the figure 1.
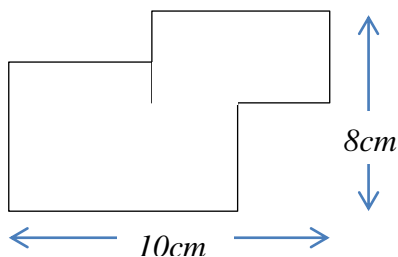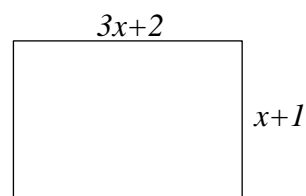

8cm

10cm

Fig. 1

3x+2

x+1

Fig. 2

   ii.

a. Write the area of the rectangle in figure 2 as an algebraic expression and give your answer in its simplest form.

b. If its perimeter is 78cm, then find the value of x.

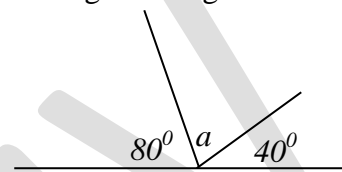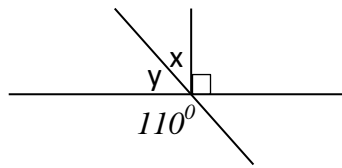c. Find its length and breadth.

d. Find its area.

(3+4x2 = 11)

3.
   i.   In the given diagram, ;
        a. What is the complementary angle of ∠ABF?
        b. For these two angles:
            • What is the common edge?
            • What is the common vertex?
        c. What is the supplementary angle of ∠ACB?
        d. If ∠ACD =130º, find ∠DCE.
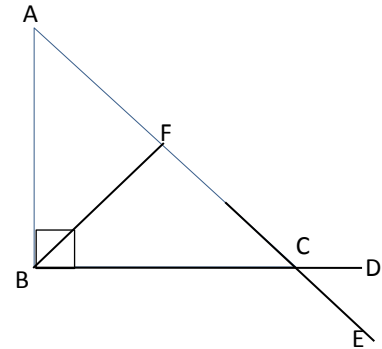
   ii. Find the angles denoted by the English alphabets in the given diagrams below:

$$(1+5x2 = 11)$$

4.
   i.   Draw a net diagram of an octahedron.
   ii.   Write the number of faces, vertices and edges of an octahedron.
   iii. Write 4 Plato's solids.
   iv.   Write Euler's relationship.
   v.   Using this relationship, find the number of vertices of a solid with 20 faces and 30 edges.

$$(3+3+2+1+2 = 11)$$

5. Simplify:
   i. $(-3) - (+2) + 4$
   ii. $8 \div (-2)$
   iii. $10x - 12x + 3x$
   iv. $\frac{4 \times (-3)}{2}$
   v. $a(x + y + 3) + a(x + 2y + 3)$

6.
   i.   Express 72 as a product of prime factors and then express it as a product of indices of prime factors.
   ii.   Simplify:
        a. 4t 234kg – 970kg
        b. 3t 234kg x 7
        c. 2t 103kg ÷ 3
   iii. If 3t 262kg of tea was mixed with 2t 903kg of tea and packets of tea each of the weight 5kg were made from the mixture, how many packets were made?

$$(4x2+3 = 11)$$