| **Grade 8** | **First Term Test - 2019** | **86** | **E** | |

| **Mathematics I** | **2 hours** |

Important :
- **Answer all questions**
- **Each question will be given by 2 marks**
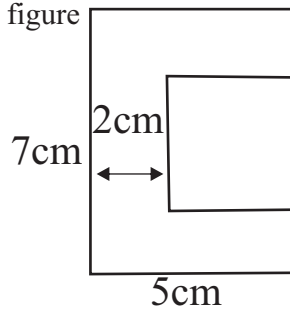
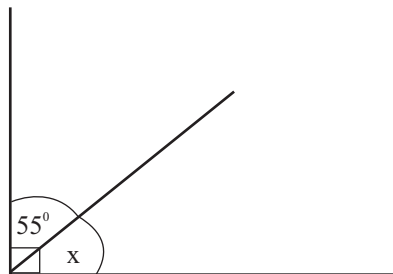Name ....

Part I

(01) Find the general term of the number pattern, 3,6,9,12, ...

(02) Simplify $\dfrac{1}{5} + \dfrac{2}{5}$

(03) Find the perimeter of given figure

7cm, 2cm, 5cm

(04) Find the value of x

55^0, x

(05) Simplify
$-8-(-5)$

(06) Solve x-2 = 8

(07) If 900 = 2x2x3x3x5x5, Find the value of $\sqrt{900}$

(08) Simplify 1.02 x 100

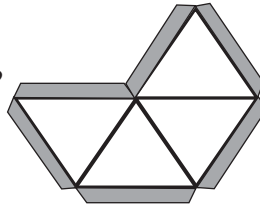(09) Find the least common multiple (LCM) of 3,4 and 6

(10) Simplify 2 (3x-1)

(11) The mass of a bulk of vegetables is 1050 kg. Express it in metric tons.
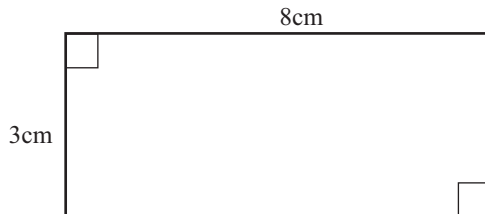
(12) Find the value of x $(2x5)^x = 2^2x5^x$

(13) Factorize ax + 2a

(14) Consider the solid which can be made by combining two of the given nets

    i. What is the name of the solids?
    ii. How many faces are there in that solid?

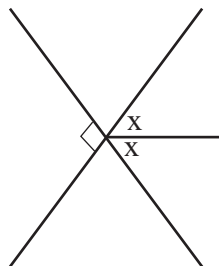(15) Find the area of this rectangle

8cm

3cm

(16) A = { even numbers between o and 10 }
Represent this set in a venn diagram

(17) Find the value of x

x
x

(18) The price of 600 g sugar is Rs. 60. Find the price of 1 kg of sugar

(19) Centre of a circle is "o" and "A" is a point on the circle.
If OA = 8cm find the length of the diameter of the circle.

(20) Write $\dfrac{2}{5}$ as a percentage

Part - II

* **Answer 01 question and 4 other questions.**
* **16 marks will be given for the 01 question and 11 marks for the other questions.**

---

(01) Remind the activity that you have done relevant to the lesson " solids" with the guidance of your maths teacher.

    i. Write down the Euler's relationship between the edges, vertices and faces of a solid.   (3 marks)
    ii. Name a solid that you have made and verify Euler's relationship for that solid.   (3 marks)
    iii. Draw a shape of a face of a regular tetrahedron and write it's name   (3 marks)
    iv. Write two other names of the platonic solids that you can make using the shape above.   (3 marks)
    v. Write the name of the solid which is made using the faces of octahedron and faces used to make a cuboid Draw a diagram of the said solid.   (4 marks)

---

(02) AB and CD are straight lines. According to the information marked in the figure.

$$C\hat{O}F = 45^0$$
$$B\hat{O}F = x$$
$$A\hat{O}D = 80^0$$
$$B\hat{O}E = 90^0$$

    i. Find the value of x   (3 marks)
    ii. Find the magnitude of $A\hat{O}C$ (2 marks)
    iii. Write an adjacent angle for $A\hat{O}C$ (2 marks)
    iv. Write a complementary angle for $B\hat{O}G$ (2 marks)
    v. Find the magnitude of $D\hat{O}E$ (2 marks)
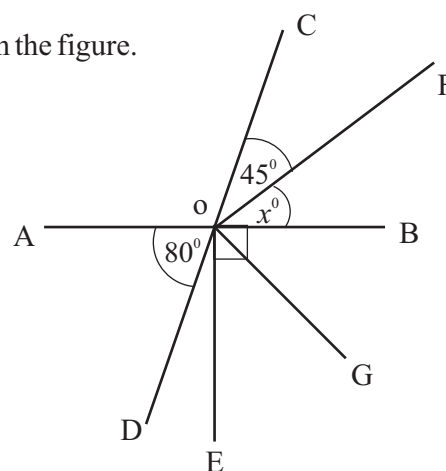
(03)   a) Simplify
        (I) $(xy)^2$ (2 marks)

    b) (i) Find the value of $(+4) - (-2)$ by   (3 marks)
            using the number line
      (ii) Simplify $\dfrac{7 \times (-4)}{(-2)}$ (2 marks)

    c)   Write the following numbers as a product of prime numbers.   (2 marks)
          72 =
          50 =

      (ii) Find the value of $\sqrt{72 \times 50}$ (2 marks)

---

(04)   a) 25 t of rice is stored in a rice storage.
       i.   If that rice was packed into packets of 10 kg. Find how many packets will be there.
              (3 marks)
       ii.   If that rice was transported using trucks which has the maximum weight limit of 2000 kg. How many trucks will be needed to transport the rice.   (2 marks)

(b) Find the perimeter of the following figures using the perimeter of ⬜ is 5 cm
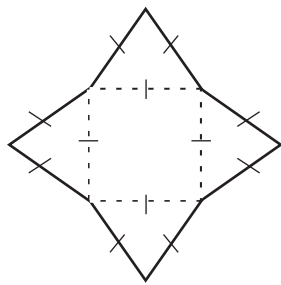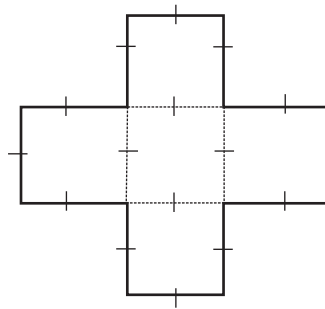
(2 marks)   (2 marks)

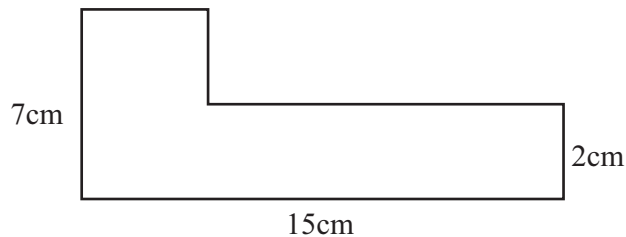(c) Find the perimeter of the figure given

7cm

2cm

15cm

(2 marks)

---

(05) (a) A vendor sold *x* amount of mangoes from a stack of mangoes for Rs. 10 each. After that he sold another 3 mangoes for the same price.

   (i) Write an algebraic expression to represent the number of mangoes he sold.   (2 marks)
   (ii) Write an expression to find the amount he made by selling above
       mentioned mangoes using brackets and simplify it.   (3 marks)

(b) Simplify   *2 (x-2y) - 5x + 6y -1*   (3 marks)

(c) Find the value of the algebraic expression *5x (3y-1)* when *x= -2 , y = 3*   (3 marks)

---

(06) (a) In the number pattern 1,3,5 ......
   (i) Write next two terms   (2 marks)
   (ii) What is the general term?   (3 marks)
   (iii) Which term is 45?   (2 marks)

(b) Simplify

(I) $\dfrac{2}{5} + \dfrac{3}{10}$ (ii) $\dfrac{1}{6} + \dfrac{1}{3}$

          (2 marks)   (2 marks)

---

(07) (a) Factorize the following expressions

      (i) 4x - 20   (2 marks)   (ii) 6a + 3ab   (2 marks)

(b) Simplify
      (i) $\dfrac{x^3 \times x^8}{x^9}$ (2 marks)   (ii) $(x^2 y^3)^2$ (1 marks)

(c) (i) Find the HCF of 6x and 8x   (2 marks)
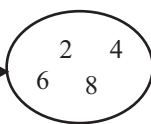   (ii) Hence find the factors of 6xy - 8x   (2 marks)

First Term Test - 2019
Mathematics
Answer Sheet

Grade 8   **Part I**

Q.No.	Answer	Marks	Total marks	Q.No.	Answer	Marks	Total marks
01	3n		02	17	$x = 45^0$		02
02	$\dfrac{3}{5}$		02	18	100 g Rs.10 Rs. 100/=	01 02	
03	(7 x 2 +5 x 2 +3 x 2) 30 cm	01	02	19	16 cm		02
04	35^0		02	20	$\dfrac{2}{5}$ x 100% <u>40%</u>	01	02
05	-8 + 5 -3	01	02				
06	x - 2+2 = 8+2 x= 10	01	02				
07	2 x 3 x 5 = 30	01	02				
08	102		02				
09	12		02				
10	6x - 2		02				
11	$\dfrac{1050}{1000}$ 1.05	01	02				
12	2		02				
13	a (x+2)		02				
14	i. octahedron ii. 8	01 01	02				
15	3 x8 24cm^2	01	02				
16	A → (2 4 6 8)		02				
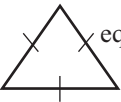
First Term Test - 2019
Mathematics
Answer Sheet

Grade 8

Part I I

Q.No.	Answer	Marks	Total marks
01	i. Faces + vertices = edges + 2	03	
	ii. naming verifying	01 02	
	iii. equilateral traingle	03	
	iv. Regular tetrahedron Dodecahedron	03	
	v. Drawing figure naming	03 01	**16**
02	i. 35^0	02	
	ii. 100^0	02	
	iii. $A\hat{O}D$ or	02	
	iv. $E\hat{O}G$	02	
	v. 10^0	02	**11**
03	(a) i. $x^2 y^2$	02	
	(b) i. $\frac{4+(+2)}{6}$	02 01	
	ii. $\frac{-28}{-2}$ 14	01 01	
	(c) i. $72 = 2 \times 2 \times 2 \times 3 \times 3$ $50 = 2 \times 5 \times 5$	01 01	
	ii. $\sqrt{2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 5}$ 60	01 01	**11**
04	(a) i. $\frac{25000}{10}$ 2500	02 01	
	ii. 13	02	
	(b) i. 10 cm	02	
	ii. 15 cm	02	
	(c) i. 44 cm	02	**11**

Q.No	Answer	Marks	Total marks
05	(a) i. $x + 3$	02	
	ii. $10 (x +3)$ $10x + 30$	02 01	
	(b) $2x - 4y - 5x + 6y - 1$ $-3x - 4y - 1$	02 01	

	(c) $5 \times (-2) (3x 3 - 1)$
	    -10×8
	    -80
		03	**11**

06	(a) i. 7,9	02	
	ii. $2 n$ $2n - 1$	02 01	

	iii. $2n - 1 = 45$
	    $\frac{2n}{2} = \frac{46}{2}$
	    $n = 23$
		02	

	(b) i. $\frac{4}{10} + \frac{3}{10}$ $\frac{7}{10}$	02	
	ii. $\frac{1}{6} + \frac{2}{6}$ $\frac{1}{2}$	02	**11**
07	(a) i. $4 (x-5)$ ii. $3a (2+b)$	02 02	
	(b) i. $\frac{x^{11}}{x^9}$ x^2	02	
	ii. $x^4 y^6$	01	
	(c) i. $2x$	02	
	ii. $2x (3y - 4)$	02	**11**