



Royal College - Colombo 07

Grade 8 – First Term Test – April 2019

Mathematics – I

Name :- Grade :- Index number:-.....

❖ Answer all the questions on the Paper itself each question carries 02 marks.

1. Write down next two terms in the number patterns 42, 36, 30, 24, ...,

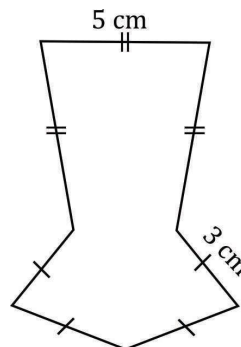
2. What is the general term of the number pattern of the multiple of 3 starting from 3 and written in ascending order?

3. The sum of two consecutive square numbers is 13. Write down the two numbers.

4. (i) Complement of 63°
(ii) Supplement of 63°

5. Write the additive inverse of (+4.5).

6. Find the perimeter of the given figure.



7. What is the magnitude of the sum of the angles around a point?

8. Write the shape of a face of a regular octahedron.

9. Express 5t 48 kg in kilograms.

10. $3x^2 - 6x$, separate into factors.

11. Find the value of $\sqrt{361}$ by observation.

12. Express $(2 \times 3)^3$ as a product of powers.

13. If $a = 5$ and $b = -2$, find the value of $2a^2b$.

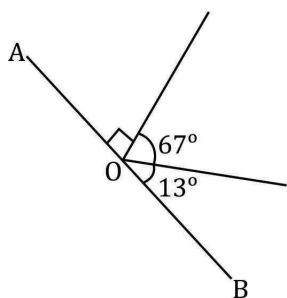
14. Fill in the blank by inserting one of the inequality signs $<$ or $>$ appropriately,
 $3^3 \dots\dots\dots 5^2$

15. The area of a flower bed is 36 m^2 . Find its perimeter.

16. Fill in the blanks.
The value of an odd power of a negative integer is

The value of an even power of a negative integer is

17. State whether AOB is a straight line. Give reasons.



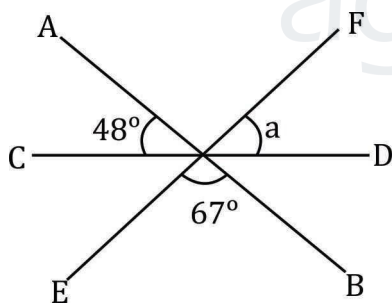
18. Find the value of $\sqrt{5^2 \times 3^2}$.

19. Write algebraic expression given below as a product of two factors.

$$-9x + 12xy^2 - 24xz$$



20. AB, CD and EF are straight lines. Find the value of a° .

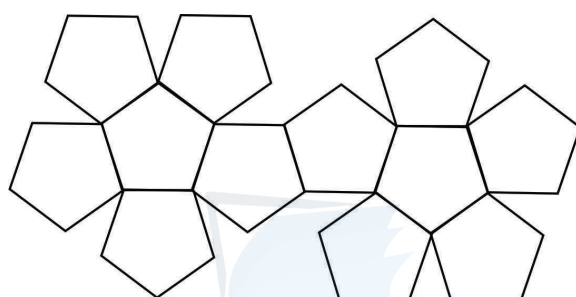


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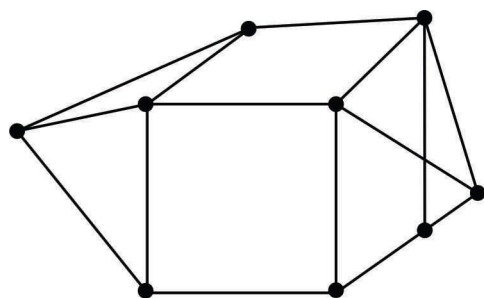
Mathematics – II**.Ks;h – II**

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

1. Recall the activity and the theories that you have discussed on platonic solids and Euler's relation, during the lesson solids with the assistance of your teacher.



- (a) (i) Name the solid which can be constructed using the net given above. (2 marks)
- (ii) What is the shape of its face? (1 mark)
- (iii) In the above solid, write
- The number of edges.
 - The number of vertices
 - The number of faces (3 marks)
- (iv) Verify Euler's relationship for this solid. (4 marks)
- (b) (i) Name three platonic solids. (3 marks)
- (ii) A Lantern has been constructed a cube and two square pyramids.



In this solid, write

- No. of edges
- No. of vertices
- No. of faces (3 marks)

2. (a) Find the answer by using the number line
 $(+2) - (-5)$ (4 marks)

- (b) Fill in the cages.

$$\frac{\square}{\square} \times (-5) = (+15) \quad (2 \text{ marks})$$

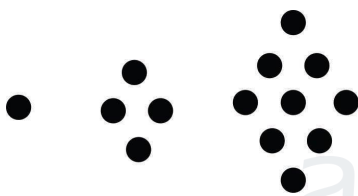
- (c) Simplify,

(i) $(-5) + (+6) + (-1)$ (2 marks)

(ii) $(-3) \times (-3) \times (-5)$ (2 marks)

(iii) $\left(-\frac{1}{4}\right) + \left(+3\frac{1}{4}\right)$ (1 mark)

3.



- (i) Draw next two figures according to the above dot pattern. (2 marks)

- (ii) Write the number of dots in each figure of the above pattern in order. (2 marks)

- (iii) Find the general term of the number pattern. (2 marks)

- (iv) Find the value of 20th pattern by using the general term. (3 marks)

- (v) State whether a figure can be formed by using 81 dots in the above pattern. Give reason. (2 marks)

4. (a) (i) Find the H.C.F. of $12x$, $20xy$, $16zx$ (3 marks)

- (ii) Write $3a + 6ab + 12ac$ as a product of two factors. (2 marks)

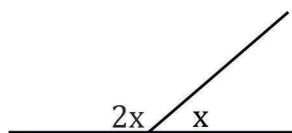
- (b) Simplify,

(i) $60t - 25t - 125 \text{ kg}$ (2 marks)

(ii) $5t \quad 120 \text{ kg} \quad \times \quad 12$ (2 marks)

(iii) $16t \quad 200 \text{ kg} \quad \div \quad 9$ (2 marks)

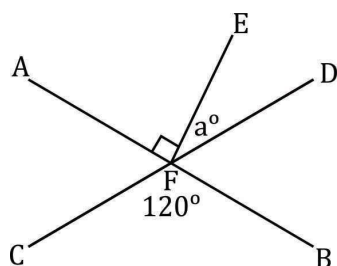
5. (a)



Find the value of X in the figure. Give reasons

(3 marks)

(b)



AB and CD are two straight lines segments intersected each other. Based on the given figure,

(i) Name the supplementary adjacent angle of \hat{AFE} . (1 mark)(ii) Name an angle which has an equal magnitude to \hat{AFD} (1 mark)(iii) Find the value of \hat{EFD} (1 mark)

(iv) Name a pair of complementary adjacent angles. (2 marks)

(v) Write down three properties of a pair of adjacent angles. (3 marks)

6. A group of student was assigned to prepare five gift parcels for students in a class. Each parcel is to contain all the items given below.

<u>Items contained in a Parcel</u>	<u>Quantity</u>
80 pages books	03
Pens	02
Mathematical instrument boxes	01
Pencils	02

Price list

<u>Item</u>	<u>Unit price (Rs.)</u>
80 pages books	3a

Mathematical instrument boxes	6b
Pens	b
Pencils	a

- (i) According to the given prices, construct an algebraic expression for the value of a parcel and simplify. (3 marks)
- (ii) Construct an algebraic expression with brackets to find the total value of five parcels. (2 marks)
- (iii) Remove the bracket of the above algebraic expression and simplify. (2 marks)
- (iv) Based on the above algebraic expression,
When $a = 15$ and $b = 20$
- a) Find the value of a parcel. (2 marks)
- b) Find the value of five parcels. (2 marks)



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