யா/ ஹாட்லிக் கல்லூரி, பருத்தித்துறை.

J/ Hartley College, Point Pedro.

முதலாம் தவணைப் பரீட்சை – 2019 – தரம் 08

First Term Examination – 2019– Grade 08

கணிதம் I, II **Mathematics I, II**	**32**	**E**	**I, II**	இரண்டு மணித்தியாலம் **Two Hours**

சுட்டெண்
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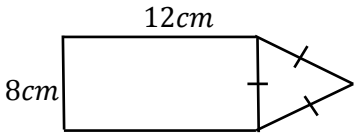
Mathematics

Part – I

Answer the all questions.

1. Find the value of $(-9) + 9$?

2. 

Find the perimeter of the given plane figure?

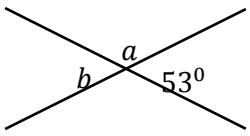
3. Remove the bracket and simplify.

   $4(a - b) - 3(b - a)$

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

5. Fill in the box

   15.07t= ☐ Kg

6. 

Find the value of a and b?

   a. ……

   b. ……

7. Factorise

   P(m-n) – q(m-n)

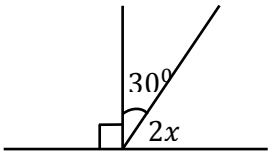
8. What is the complementary angle of 83°?

9. If a certain solid has 9 edges and 6 vertices using the Euler's relationship, find the number of faces?

10. Simplify 80.72-3.25

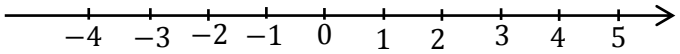
11. If $3x = 11$, find the value of $3(x - 1)$?

12. In which odd number is 179?

13. 

Find the magnitude of x?

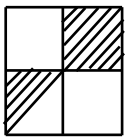
14. Find the value of $(-2) - (-5)$, by use the number line ?



15. What is the coefficient of x in the algebraic expression given below?

$1 - x$

16. Mention the names of three platonic solids

17. 
Write this shaded portion as a fraction?

18. If the Area of a square is 121cm$^{2.}$ Find it's perimeter?

19. Write two consecutive numbers of the number pattern 27,18,3……?

20. Find the value of $[55 + (81)^{\frac{1}{2}}]$

$(20 \times 2 = 40$ *Marks*

Part – II

Answer six questions only.

01.

a. Factorise

i. $3x - 12$

ii. $18 - 6a$

iii. $a^2b - ab^2$

iv. $ax^2y + bx^2y^2 + 4x^2y$

b. Find the value of each algebraic expression when $x = (-2), y = 3$

i. $3x + 2y$

ii. $3x - 2y$

iii. $\frac{1}{y^2} - \frac{1}{x^2}$

$(1 + 1 + 1 + 2 + 1 + 2 + 2)$

02.

a. Simplify

i.

t	Kg
18	200
− 9	600

ii.

t	Kg
5	520
×	5

iii. $5t\ 200kg\ \div 4$

b. Fill in the box $\frac{(-9)\times\square}{(-6)} = (+6)$

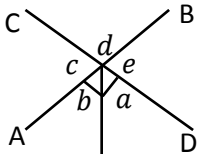
c. Find the value of $(-6) - (-1) + 2$

$(\mathbf{2 + 2 + 2 + 2 + 2})$

03.

a. Draw an acute angle and name it $A\hat{B}C$

b.



i. Write a pair of complementary angle.

ii. Fill in the blanks.

$c =$ ———— (vertically opposite angle)

iii. Mention two adjacent angles to 'd'

iv. Write the supplementary angle of 'e'

c.

i. Mention the name of the solid which has 12 faces, 20 vertices and 30 edges.

ii. Show that above solid satisfy the 'Eulers' Relation.

$(2 + 1 + 1 + 1 + 1 + 2 + 2)$

04. **5, 9, 13, 17, …….**

i. Find the common difference of above number pattern.
ii. Find the general term (T_n) of the above number pattern.
iii. Find the 25^{th} term of the number pattern by use the general term.
iv. In which term is 81.
v. Find $T_{20} + T_{21}$

$(\mathbf{2 + 2 + 2 + 2 + 2})$

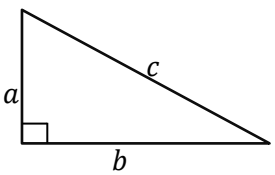
05.

i. Express $8a^3$ as a power of product.
ii. Write $(9ab)^2$ as a product of powers and simplify it
iii. Simplify
$(3p)^3 \times (2q)^3$
iv. If $a^3 = 8 \times 27$, find the value of a
v. Find the value of $(-1)^{2017} + (-1)^{2018} + 2$

$(\mathbf{2 + 2 + 2 + 2 + 2})$

06.

a. Write down the HCF of each of the following groups.
i. $3x, 12xy, 15xy$
ii. $4x^2y, 6xy, 8xy^2$

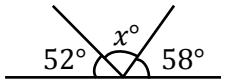
b. 

If the relationship $C^2 = a^2 + b^2$ is true for the right angled triangle, find the value of c when $a = 6$ and $b = 8$

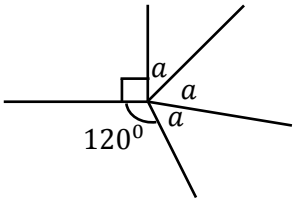
c. If a is a negative integer, show that $a^2 > a^3$

$(\mathbf{2 + 2 + 3 + 3})$

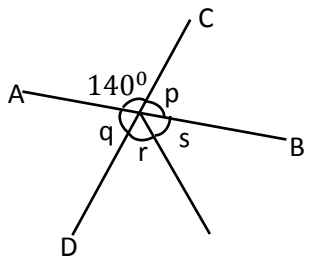
07.

i. 

Find the value of x

ii. 

Find the value of a

iii. 

AB and CD are two straight lines.
a. Find the magnitude of 'p'(write the reason for your answer)
b. Find the magnitude of 'q'(write the reason for your answer)
c. If $4s = 3r$. find the magnitude of r and s

$(\mathbf{2 + 2 + 2 + 2 + 2})$