## MahindaRajapaksha College

First Term Test - 2013
Mathematics

| Paper I |  |
| :--- | :--- |
| Paper II |  |
| Total |  |

Grade 8

Time- 2 hours

## Name:

$\qquad$ Class:

## Part 1

## Answer all the questions on this paper itself.

1. Write the first two terms of the number series of which the general term is $10-3 \mathrm{n}$.
2. Find the perimeter of this figure.

3. 

I. What is the compliment of $23^{\circ}$.
II. What is the suppiment of $47^{\circ}$. $\qquad$
Answer 4th and $5^{\text {th }}$ questions according to the given figure.

4. Write a pair of adjacent angles in the diagram.
$\qquad$
5. Findthe value of $a^{0}$.
$\qquad$
6. Remove the brackets and simplify
$2(X+3)-X+2$
$\qquad$
$\qquad$
7. Find the difference of the directed numbers which illustrated on the number line.

8.
I. Name the solid object with 20 equilateral triangular shaped faces.
II. How many numbers of edges does it have?
9. Fill in the blanks.
I. The mathematician who told that there are five regular solids is
II. The mathematician who expressed a relation about solids is
10. The area of a square shaped land is $324 \mathrm{~m}^{2}$. Find the length of a side of the land.
11. Fill in the blanks.
I. $\quad 30 \mathrm{t} 50 \mathrm{~kg}=$ $\qquad$ kg.
II. $. t=7050 \mathrm{~kg}$.
12. Price of a book is $2 x$ and price of a pen is $y$. Find the cost of two parcels which contain 5 books and 2 pens in each.
$\qquad$
13.


Find the valueof $\mathbf{a}$ and $\mathbf{b}$.
a= $\qquad$ b= $\qquad$
14. The length of a rectangle is 10 cm more than its breadth. If the length is $x$,
I. Write the breadth in terms of x . $\qquad$
II. Write an algebraic expression for the perimeter of the rectangle $\qquad$
15. If the perimeter of the above rectangle is 60 cm , find its breadth.
$\qquad$
16. Fill in the blanks.
I. Angles which form when intersecting two straight lines are called

Angles. ( except adjacent angles)
II. Angles which have a common $\qquad$ and acommon arm and lies on either sides of the common arm is called adjacent angles.
17. Answer the following questions using the given diagram.

I. A pair of corresponding angles
II. A pair of allied angles
18. Fill in the blanks.
I. (-3) $\times(-2)$
(-6)
II. (-4) x $\square$ $+10$
(-2
19. Find the value of $\left(\frac{5}{3}\right)^{3}$
20. If $676=2^{2} \times 13^{2}$, find the value of $\sqrt{676}$
( $20 \times 2=40$ marks )

## Part II

Answer the first question and four other questions only.(show all the calculations clearly)
i. Recall your memory of the activity that you did in your classroom on "constructing the solids "and answer the following questions.

i. Name the solid that you made by using this block. ( 2 marks)
ii. How many such blocks did you use for that? Write your one of experience while making this. ( 2 marks)
iii. Write two properties of a regular solid. ( 2 marks)
iv. Write number of faces and edges in above solid. ( 2 marks)
v. Name all other regular solids except above solid. ( 4 marks)
vi. Find the number of faces of a solid that has 4 vertices and 6 edges. ( 2 marks)
vii. Find the values of the unknown angles of below diagram. ( Give reasons) ( 4 marks)

i. write the next two terms of following number sequences.
a) $3.5,3.0,2.5,2.0$, $\qquad$
b) $1,3,7,13,21$ $\qquad$ ( 2 marks)
ii. ii) Which odd number term is 199? (1 mark)
iii. III) By considering the first triangular number is T 1 , second triangular number is T2, third triangular number is T3 $\qquad$ so on; find the value of the expression $2(T 9+T 10)$ (3 marks)
iv. IV) Find the general term of the number pattern,

$$
18,15,12,9, \ldots . . . . . . . . . . . . . . . . . . . . \quad \text { ( } 2 \text { marks) }
$$

v. v) Which term is (-6) in above number sequence.
i. A labour who is watering the plants goes around a rectangular shaped building of the length 110 m and breadth 50 m in every morning.
a. What is the total distance he has gone in completing one round. (2 marks)
b. If he waters the plants in every evening too, find the total distance that he is walking around the building during one week (7 days).
ii. An equilateral triangle has been pasted on one side of a square to create a combined plane figure.
a. Draw the figure. ( 2 marks)
b. If the length of one side is $x \mathrm{~cm}$, find the perimeter of above plane figure in terms of $x$. ( 2 marks)
c. If $x=4 \mathrm{~cm}$, find the value of above expression. ( 2 marks)
4.
i. Find the H.C.F. of $10 \times 2,5 x y, 15 x$. ( 2 marks)
ii. Separate the common factors of the expression, $10 \times 2+5 x y+15 x . .(2$ marks)
iii. There are 36 books, 24 erasors and 42 pencils near a student.
iv. The price of a book is Rs.a, The price of an eraser is Rs. B and the price of a pencil is Rs.c.
a. Express the value of all these goods by an algebraic expression. ( 2 marks)
b. If he wants to pack them so that there will be an equal number of books, erasers and pencils in each parcel. ( not to have remainders of any stationaries) Find the highest number of parcels he can make.
c. Find the value of one that parcels in terms of $a, b$ and c. ( 2 marks)
d. Compare your answers which you obtained for a) and c) . (1 mark)
5.
i. What is the nth square number. . ( 1 mark)
ii. What is the square root of it? . ( 2 marks)
iii. Find the square roots of following numbers and algebraic terms.
a) $\sqrt{900}$
b) $\sqrt{(x y)^{2}}$
(4 marks)
iv. The area of square shaped cuisine cover is 289 cm 2 .
a. What is the length of one side of it? .( 2 marks)
b. Find its perimeter. . ( 2 marks)
6.

i. Read the statement and name the given diagram. . ( 2 marks)
" Both lines PQ and RS are Intersected by the line TU. A and B are the point of intersecting."
ii.

How you call the line TU. . ( 1 mark)
iii. Name a pair of supplementary angles. . ( 2 marks)
v. Complete the following table. . ( 6 marks)

| Diagram | Type of angle |
| :--- | :--- |
| Eg: | Alternate angles |
|  |  |
|  | Allied angles |
|  |  |
|  |  |
|  | $\ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~$ |
|  |  |

7. 

i. Simplify. . ( 6 marks)
a) $(6+)+(5-)$
b) $(6+)-(5-)$
c) $(3-) x)+5($
d) $(-3) x(+5)$
e) $(+7)+(-3.5)$
f) $(-8)-(+2.8)$
(-15)
ii. Remove the brackets and simplify. . ( 3 marks)

$$
3(x+2 y)-2(3 x-y)+5
$$

iii. Complete the table. . ( 2 marks)

| $x$ | $(-2)$ | $(+2)$ |
| :---: | :---: | :---: |
| $3 x-1$ |  |  |

