Department of Education – Western Province

First Term Evaluation

| **Grade 8** | **Mathematics** | **Time: 2 Hours** |

Name: ……………………………………… Class: ……… Index No: …………..

Part I

❖ **Answer all the questions on this paper itself.**
❖ **Each question carries 02 marks.**

1. Write the 7th multiple of 5.

2. Simplify. $(-6) - (+3)$

3. Write the additive inverse of following numbers.

   i) (-2) ……………………

   ii) $\frac{1}{3}$ ....

4. Complete the following table.

	Angle a	Angle b
a and b are complimentary angles	60^0	……………
a and b are supplementary angles	…………..	120^0

5. From the following, underline the ones which are **not** platonic solids.

   Cube, Cuboid, regular tetrahedron, square based pyramid, regular octahedron

6. Write down two digits that should not be in the ones place of a perfect square number.

7. Find the value of x.

   140^0

   x 150^0

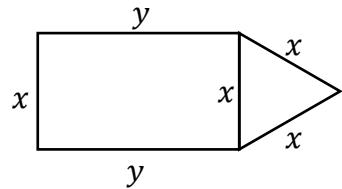8. Simplify $\frac{(+2) \times (+6)}{(-3)}$.

9. Remove the brackets and simplify. $3(x - y + 5) + 2x$

10. Write the 2nd term of the number pattern with the general term $\frac{n(n+1)}{2}$. To which number pattern does this general term belongs?

11. Fill in the blanks.

$\boxed{+3}$ x $\boxed{}$ x $\boxed{0}$ = $\boxed{-3}$ x $\boxed{0}$ = $\boxed{}$

12. If the perimeter of the figure is P, write a algebraic expression for P.

13. Write down the suitable units that can be used to measure the following masses.

Medicine pill ……………………   A loaded truck ……………………

14. Express as a power of a product. $a^3 \times (2b)^3 \times c^3$

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

16. If the following statements are true put √ and if they are wrong put x in the given boxes.

i) $4pq - 12pqr = 4pq(1 - 3r)$ $\boxed{}$

ii) $-3(2x + 3) = 6x - 9$ $\boxed{}$

17. The area of a square shaped flower bed is 256m^2. Find the length of a side of it.

18. Express the answer in metric ton and kilograms. 7 t 200 kg - 1 t 700 kg

19. Find the value. $(-1)^3 \times 3^2$

20. When $x = 2$ and $y = 3$, find the value of $x + 3y$.

Part II

- **Answer the first question and another 4 questions only.**
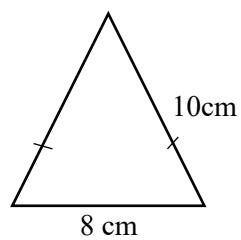- **First question carries 16 marks and the other questions carry 11 marks each.**

1. Recollect the activity that you have done regarding solids and answer the following questions.
    i.   What is the name of the solid which has the pentagon shaped face that you have made?
    ii.   Write down the Euler's relation regarding the number of edges, vertices and faces of a solid.
    iii.   Show that the Euler's relation is true for a regular octahedron.
    iv.   Draw the shape of a face of a regular octahedron and write the name of the shape.
    v.   Name another two platonic solids which has the same shape of faces that you have drawn in (iv).
    vi.   Write down the name of a solid which does not satisfy the Euler's relation.

2. In the number pattern 1, 3, 5, 7,…….
    i.   Write the next term.
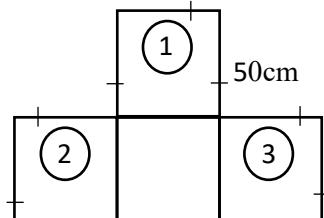   ii.   Complete the table to obtain the general term of the number pattern.

term	multiple of two - 1	Number
1	$1 \times 2 - 1$	1
2	$2 \times 2 - 1$	3
3	$3 \times 2 - 1$	....
4	$4 \times ….. -1$	....
n	....	....

    iii.   Which term of it is 45?
    iv.   When we add the first term, first two terms, first three terms…….and so on, we can get first terms of another number pattern. Write dawn that number pattern.
    v.   Write the general term of that number pattern.

3. (a) Figure shows a triangle made using rubber on a nailed board.
    i.   Find the perimeter of it.
    ii.   A square can be made on 4 nails using the same rubber band, with the same perimeter as in the triangle. Find the side length of it.
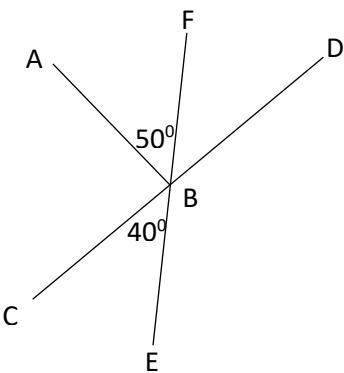
10cm

8 cm

   (b) Figure shows a small stage prepared for an awarding ceremony. It is needed to paste a small ribbon around the stage. Find the minimum length of the ribbon needed for that.
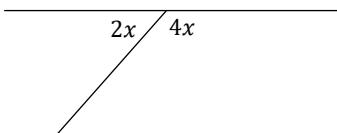
1

50cm

2   3

4. (a) Answer the following questions according to the information given in the figure.
    i.   Name a pair of vertically opposite angles.
    ii.   Find the magnitude of $D\hat{B}F$.
    iii. Name a pair of complimentary angles.
    iv.   Are $A\hat{B}F$ and $A\hat{B}D$ adjacent angles? give reasons for your answer.

(b) Find the value of x.

5. (a) Length of a rectangular land is x and the breadth of it is 3m. A fence was fixed around the land, by increasing the length by 2m.
    i.   Draw the sketch of the portion of land covered by the fence and mark the length and the breadth.
    ii.   Write an algebraic expression using brackets, for the area of land covered by the fence and simplify it.

(b)   Simplify. $3x + 4y + x - 3y - 5$

(c)   i. Simplify $3a(2b - 1)$

       ii. If $a = -1$ and $b = 2$ find the value of $3a(2b - 1)$.

6. i.   Find the highest common factor. $4ax$, $6abx$
   ii.   By taking the highest common factor as a one factor, write as a product of two factors. $24ax + 16a^2b + 8a$
   iii. Write as a product of two factors. $-5x - 20y$
   iiv. Fill in the blanks. $-6a + 8ab = -2a($ $)$

7. (a) Fill in the blanks.
    i.   3.5 t = ……………..kg
    ii.   1 600kg =………………..t

   (b) Mass of a container loaded with rice is 10.25t. Mass of the empty container is 2t 500kg. Packets of rice with the mass 10kg is needed to be made from the rice loaded in the truck. How many such packets can be made?

   (c) Simplify. 17 t 200 kg ÷ 8