සබරගමුව පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව
சபரகமுவ மாகாண கல்வித் திணைக்களம்
Sabaragamuwa Provincial Department of Education

පළමු වාර පරීක්ෂණය - 2018	8 ශ්‍රේණිය
முதலாம் தவணைப் பரீட்சை - 2018	தரம் 8
First Term Test - 2018	Grade 8

ගණිතය I , II	පැය දෙකයි
கணிதம் I, II	இரண்டு மணித்தியாலம்
Mathematics I , II	Two hours

Part I - Answer all questions

Name : ....

1. Write down the next two terms of the number pattern 1, 3, 6, ..., ...
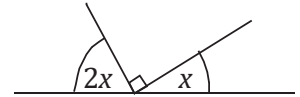
2. Find the perimeter.

   4 cm

   6 cm
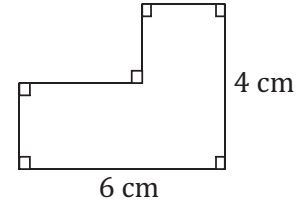
3. The price of a pen is Rs.x. The price of a book is Rs.30. Write down the algebraic expression for the total price, when bought 3 pens and one book.

4. Express in metric tonnes and kilogrammes, 5008kg.

5. Find the value of x.
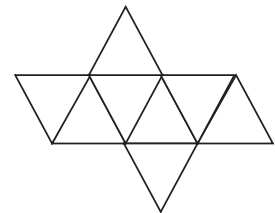

   $2x$ x

6. Fill in the blanks.

   $4x + 16 = 4$ x [   ] $+ 4$ x [   ] $= 4$ ([   ] $+$ [   ])

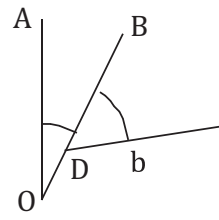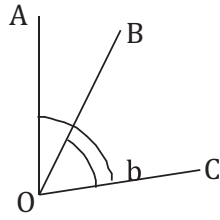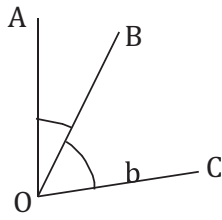7. Express the following expression as the power of a product.

   $(2a)^3$ x b^3

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

9. Name the solid that can be made by using the following net and write down the number of edges of it.

10. Underline the correct answer included adjacent angle, using the following figures.
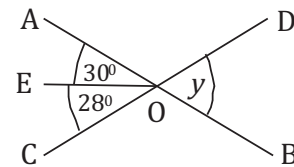

    i. only a   iii. a, b and c
    ii. only a and c   iv. not at all

11. Find the 20th square number.

12. Find the highest common factor of $6xy$, $12xyz$, $24x$.
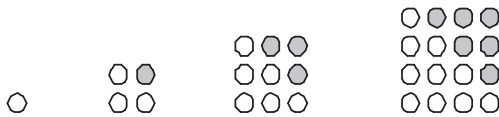
13. Find the value of x, AB and CD are straight lines.

14. The area of a square shaped land is 900cm^2. Find the length of a side.

15. The perimeter of a square is equal to the perimeter of an equilateral triangle of side 8cm. Find the length of a square.

16. Draw the next term of the pattern and dark as the correct it.

17. The length of a rectangular class room is 5 more than 3 times its breadth. If the breadth is x, write the area of it, as an algebraic expression.

18. Mass of a lorry was loaded with cement is 5t 350kg. It mass of a lorry is 2t 700kg, find the mass of cement?

19. 32^0 and 58^0 is a pair of adjacent angle. Is it complement? or supplement? Given reasons.

20. Find the value $(-3)^3 \times 4^2$

Answer only 5 questions.

(01) a. i) Find the value of $(-2) \times 3 + 4$

      ii) Find the value of $(-6) - (-5)$ using the number line.

  b. i) Write 180 as a product of prime numbers and represent it as an index form.

    ii) Write $9x^2$ as a power of a product.

    iii) Find the value of $[(-1)^3 \times 3^2] + (2^2 \times 5^2)$.

(02) a. i) If FG = BC, Find the length of DE.

      ii) Find the perimeter of the given figure.
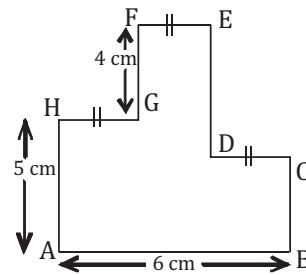
  b. i) Write $16x + 12y + 8$ as a product of two factors.

    ii) The item list of one parcel for a flood donation has been given below.

	weight of a packet	No. of packets
Suger	x	2
Milk powder	y	2

    iii) Build up an algebraic expression for the weight of 35 such parcels.

    iv) If $x = 800g$ and $y = 200g$, Find the total weight of milk powder in 35 parcels in kg.

(03) i) Simplify.

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

  ii) If $x = -3$ and $y = 2$, Find the value of $x^2y + 3y^2$

  iii) Simplify and find the factors $6a^2 + 7ab + 5ab - 3a^2$

  iv) Join.

      $15x^2 + 3xy$ $x(x - 2y + y^2)$

      $-4xy - 12x^2$ $8xy(x - 2y + 3)$

      $x^2 - 2xy + xy^2$ $-4x(y + 3x)$

      $8x^2y - 16xy^2 + 24xy$ $3x(5x + y)$

(04) i) The length and the perimeter of the rectangular building are 50m and 140m respectively. Find the breadth of this building.

ii) The length of one side of a square shaped tile is 25cm. Owner of this building wants to lay tiles one round of inner boundary of this building. Find how many tiles that he wants.

iii) Which solid can be built using the given net.

iv) The square faces of the above build 2 solids been fixed together and has been made a new solid. suggest a name for the new solid. Write the number of faces, vertices and edges it has.

v) 1t 250kg of dhal and 3t of rice are loaded to the lorry of mass 2t 750kg. What is the total weigth of lorry with dhal and rice.
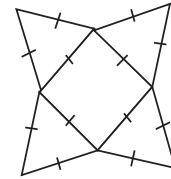
(05) 1, 3, 6, 10

i) Write the common term and find the 12th term of the above number sequence.

ii) Find the value of $(4\frac{1}{2}) - (-3) - (-\frac{1}{2})$

iii) a) Write the following numbers in the assending order.

$(-10)^3, 3^3, (-1)^{10}, 2^4$

b) Find the value $(-2)^3 + 3^2$

iv) Find the value of $\sqrt{324}$ using your knowledge about factors.

(06) The diagram shows a logo. it shows how an equilateral triangle with side length is 3cm is cut and removed from a rectangular plate of length 8cm and breadth 3cm.

i) Find the perimeter of the logo.

ii) Write down two platonoic solids.

iii) A composite solid constructed by combining a cube and two square Pyramids is shown in the figure. Show that Euler's relationship is true for this composite solid.
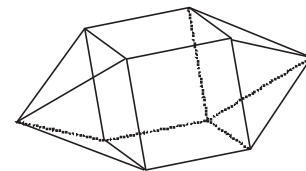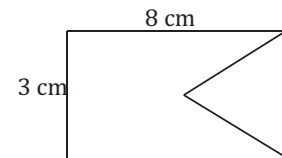
iv) AC, AD and BF are straight line segments in the given figure.

Find the magnitudes of $B\hat{E}D$ and $D\hat{B}C$ by giving reasons.
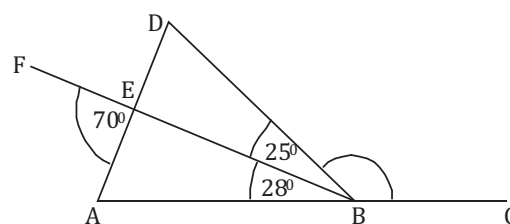
(07) i) Find the value of $(-12) \div 4$

ii) Simplify this $\sqrt{25\ a^2\ b^2}$

iii) Fill in the blanks.

$$8000a^3b^3 = 8 \times 1000 \times a^3 \times b^3 = \boxed{}^3 \times 10^{\boxed{}} \times \boxed{}^3 \times b^3$$

$$= (\boxed{} \times 10 \times a \times b)^3$$

$$= (\boxed{}ab)^3$$

iv) Write down next two terms of the given number sequence.

$2\frac{3}{4}$, $2\frac{1}{2}$, $2\frac{1}{4}$, ..., ...