



Royal College – Colombo 07  
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Grade 08 – First Term Test – March 2020  
පළමු වාර පරීක්ෂණය - 2020 මාර්තු - 08 ශ්‍රේණිය

කාලය : පැය 02 යි  
Time : 02 hours

Maths

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Name : - ..... Class :- ..... Number :- .....

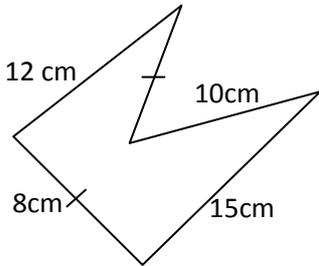
Part I

- Answer all the questions on this paper itself.
- Each question carries 2 marks.

(1) Write the next two terms of the number pattern.

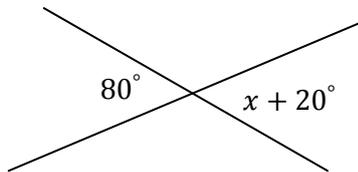
25, 23, 21, ....., .....

(2)



Find perimeter of the figure.

(3)



Find the value of  $x$ .

(4) Give two examples for platonic solids.

(5) Write first two terms of  $3n - 1$ .

(6) Arrange in ascending order.

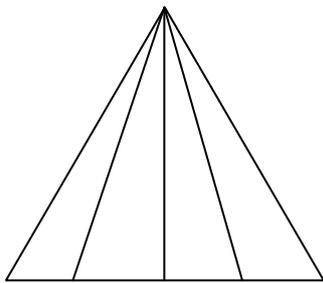
876 kg, 8.67 kg, 5.67 kg, 7000g

(7) Construct an algebraic expression for the total amount required to buy 2kg of flour of which 1kg is Rs.  $x$ , 500g of sugar of which 1kg is Rs.  $y$  and 250g of tea leaves of which 1kg is Rs.  $z$ .

(8) Remove the brackets  $5(2x - 3)$

(9) Find the value  $\sqrt{\frac{100}{9}}$ .

(10)



Write the number of triangles of the figure.

(11) The sum of two consecutive square numbers is 61. Write the two square, square numbers.

(12) Find the value when  $15^\circ$  is added to complement of  $60^\circ$ .

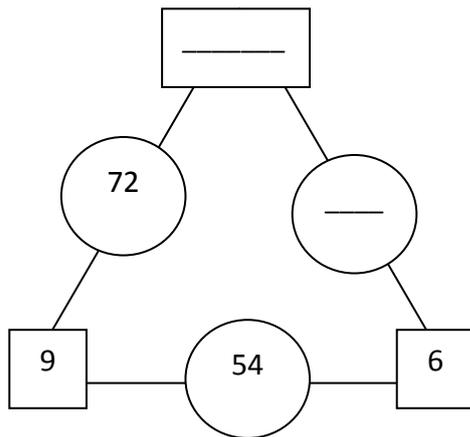
(13) Find the value of  $(-7) \times 0 \times (-12)$

(14) Find the value of  $2x + 6$  when  $x = (-2)$ .

(15) Add two expressions  $x + 2$  and  $2x + 1$

(16) Find the 30<sup>th</sup> triangular number.

(17)



Fill in the blanks.

(18)  $x^2 - xy$  as a product of two factors.

(19) Find the value of  $2.56 \times 100$ .

(20) Write two possible digits in the units place of a perfect square.

## Part II

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

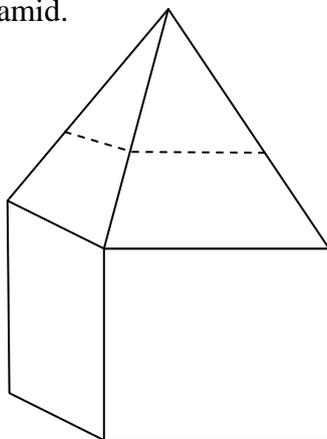
(1) i) Grade 8 student made three regular solids which have only triangular faces for an assessment. Complete the table given below using those three solids.

Solid	Number of faces	Number of vertices	Number of edges
a) .....	4	.....	.....
b) .....	.....	6	12
c) .....	20	.....	30

(07 marks)

ii) He made a another solid of which all the faces are regular pentagons. Name the solid.  
(01 mark)

iii) Below figure shows a composite solid made by combining a cube and a square based pyramid.



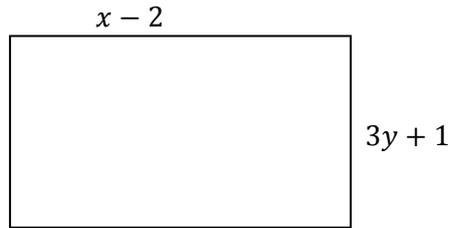
(a) Find the number of faces edges and vertices of this composite solid. (03 marks)

In the above combined solid, the upper portion of the square based pyramid was cut off along the dotted line to make a vesak lantern.

- (b) Draw a rough diagram of the newly created composite solid.  
(c) Find the number of faces, edges and vertices of that solid.

- (2) i) a) Express 36 as a product of prime factors.  
b) Find the highest common factor of 18, 24 and 30.  
c) Find the highest common factor of  $6xy$ ,  $12x^2y$ ,  $18x^2y^2$ .
- ii) Express the following algebraic expressions as a product of two factors.  
a)  $6ab + 9ac - 15$   
b)  $15pq + 45qr + 60q$

- (3) i) Write an algebraic expression for the perimeter of the given rectangle.

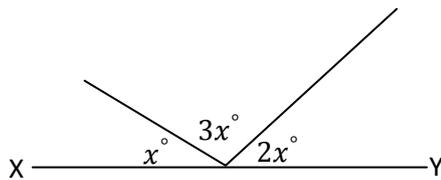


(03 marks)

- ii) A parcel was made with five apples of Rs.  $x$  each and four oranges of Rs  $y$  each.

- (a) Write an algebraic expression for the cost of a parcel. (03 marks)  
 (b) If five such parcels were prepared, write an algebraic expression with brackets for the total cost of these five parcels. (03 marks)  
 (c) Write an algebraic expression for the balance received if Rs. 1000 was given to the shop keeper to buy these items. (02 marks)

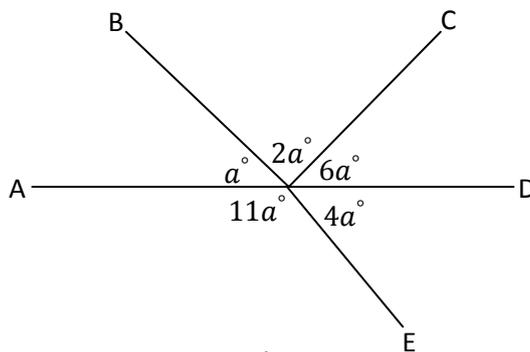
- (4) i)



$xy$  is a straight line.

- (a) Find the value of  $x$  , Give reasons. (03 marks)  
 (b) Find the complement of  $x^\circ$ . (02 marks)

- ii)

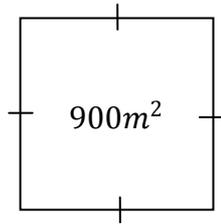


- (a) Find the value of  $a^\circ$ . Give reasons. (03 marks)  
 (b) Name a pair of supplementary angles. (02 marks)

- iii) A pair of angles has a common arm and a common vertex. What is the remaining requirement satisfied to be a pair of adjacent angles? (01 mark)

- (5) i) (a) Find the value of  $\sqrt{144}$ . (01 mark)  
 (b) Simplify  $\sqrt{(2 \times 5)^2 \times 7^2}$ . (02 marks)  
 (c) Find the value of  $\sqrt{576}$  using prime factors.

ii) The area of a square shaped land is  $900m^2$ .



- (a) Find the length of one side. (02 marks)
- (b) Find perimeter of the land. (02 marks)
- (c) It is intended to put five rounds of barbed wire around this land. Find out the cost of this if 1m of wire is Rs. 10. (02 marks)

- (6) i) (a) Write first four terms of the number pattern of odd numbers starting from 1 written in ascending order. (02 marks)
- (b) Write the general term of the above number pattern. (02 marks)
- (c) Which term of the above odd number pattern is 115? (02 marks)

ii) 1, 4, 9, 16, 25,..... is a number pattern.

- (a) What type of numbers are there in the above number pattern? (01 mark)
- (b) Write the general term of this number pattern. (02 marks)
- (c) Show that the sum of 3<sup>rd</sup> and 4<sup>th</sup> term of this number pattern is equal to the 5<sup>th</sup> term. (02 marks)

(7) i) Solve the following using the number line.

- (a)  $(+4) + (-3)$
- (b)  $(+5) - (-2)$  (04 marks)

ii) Find the value.

- (a)  $(+3) + (+2)$
- (b)  $(-2) + (+3) - (+5)$
- (c)  $(-3) - (-7)$  (03 marks)

iii) Fill in the blanks.

(a)  $(-72) \div (+8) = \boxed{\phantom{00}}$

(b)  $\frac{(-8) \times (-3)}{(-6)} = \frac{\boxed{\phantom{00}}}{-6} = \boxed{\phantom{00}}$

(c)  $\frac{(-2) \times \boxed{\phantom{00}}}{(-3) \times (-4)} = (+1)$

(04 marks)