015

Southern Provincial Department of Education

Year End Test - 2018

Mathematics

Grade 8

Name / Index No. ..... Time - 2 hours

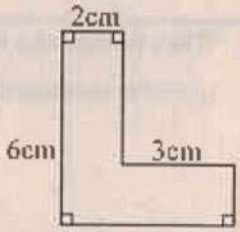
Paper I

- **Answer all this questions paper itself.**

(01) A= {letters of the word "elements"}
Write down the elements of the set A and Find n(A).

(02) 3, 6, 9, 12..... Write the next two terms of the number pattern and Find the general term.

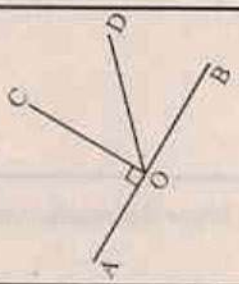
(03) Find the perimeter the figure.



(04) Simplify. $\frac{(-5)\times(-6)}{(-2)}$

(05) If p=-3, q=-2 find the value of p^2+3q.

(06) AOB is straight line. $A\hat{O}C = 90°$. Name,
(i) The complementary angle of the angle $B\hat{O}D$.
(ii) The supplementary angle of the angle $B\hat{O}D$.



(07) Area of a square shaped chess board is $400cm^2$. Find the length of a side.

(08) If the train fare is increased by 15% find the extra amount which have to pay for a person who paid Rs 80/= for a ticket earlier.

(09) Draw two plane figures which can use to create a regular tessellation.

(10) find the value 1.42×0.2

(11)

Write the inequality represented on this number line.

(12) When preparing a fruit salad banana and papaw are mixed in the ratio 3:5 and papaw and water melon are mixed in the ratio 4:3. Find the ratio of banana to papaw to water melon in the salad.

(13) Show that 6^3 is given by 8×27.

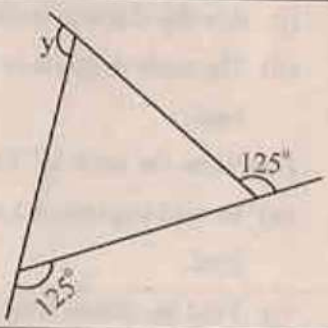
(14) Solve. $\frac{a}{5} - 2 = 1$

(15) Show that regular octahedron is satisfy the Euler's relationship.

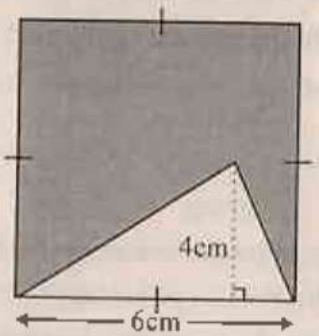
(16) When the time in kuala lumpur in the +8 time zone is 21: 00, Find the time in Sri Lanka in the 5 ½ time zone.

(17) Mass of 3 equal bangles is 8g 070mg. Find the mass of a bangle.

(18) Find the value of y.



(19) Find the area of the shaded region of this picture.

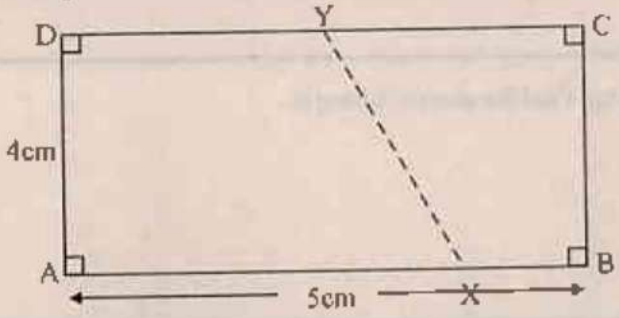


(20) Verify using two examples that "the sum of two consecutive triangular numbers is a square number"

Part - II

- **Answer 1st question and a other questions.**
- **1st question carries 16 marks other carry 11 marks each.**

(01) (a) The scale diagram of the rectangular shaped land ABCD of Isuru is given below.



(i) Are the shape of both scale diagram and actual diagram same? (M. 01)

(ii) The scale diagram is drawn by representing 10m by 1cm. Find the actual length and breadth of the land. (M. 02)

(iii) Write the scale in (ii) as a ratio. (M. 02)

(b) In road expansion a quadrilateral shaped part XBCY such that XB = 10m, YC = 20m loss to the land.

(i) Find the actual length of AX and DY. (M. 02)

(ii) Draw the scale diagram of the remaining portion AXYD using the scale 1: 500 (M. 05)

(iii) Using the scale diagram find the shortest actual distance from A to Y. (M. 02)

(iv) In your scale diagram mark using an arrow head the direction S 40° E at D. (M. 02)

(02) (a) In a fruit shop there are 80 ripe bananas and 320 raw bananas in a bunch of bananas on Monday morning.

(i) Find the total number of bananas in the bunch of bananas. (M. 01)

(ii) Find the percentage of the ripe bananas in the bunch of bananas. (M. 03)

(iii) 60 ripe bananas are sold out during Monday. Another 120 bananas were ripen from raw bananas on Tuesday morning. Find the ratio between raw and ripe bananas now in the shop in the simplest form. (M. 03)

(iv) A portion from ripe bananas are sold during Tuesday. The ratio between raw and ripe bananas now in the shop is 10 : 3. Find how many ripe bananas were sold on Tuesday. (M. 02)

(v) The mass of 20 bananas is 1kg and the price of 1kg of bananas is Rs 50/=. The trader took the bunch of bananas for Rs 750. Show that by selling all the bananas in the bunch the trader can expect a profit of Rs. 250 (M. 02)

(03) (a) (i) Find the highest common factor of the algebraic terms 6a, 9ab, 15ac (M. 03)

(ii) Remove the brackets and simplify, $3(x-2)-2(x+1)$ (M. 03)

(b) Price of a mango is Rs 7 greater than the twice of the price of a guava.

(i) Price of a guava is Rs x, state the price of a mango in terms of x. (M. 02)

(ii) If the price of a mango is Rs 45 build up an equation and by solving it find the price of a guava. (M. 03)

(04) (a) Marks obtained by 11 students for a M.C.Q. paper is given below.

23, 34, 30, 18, 08, 16, 25, 25, 21, 14, 28

(i) What is the least mark obtained by a students. (M. 01)

(ii) Represent the above marks using a stem and leaf diagram. (M. 03)

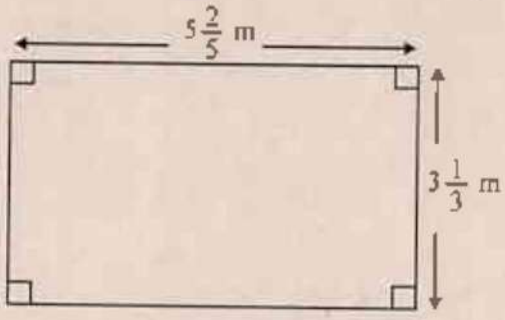
(iii) Find the range of the marks. (M. 01)

(iv) Find the median of the marks. (M. 02)

(v) Find the mean of the marks. (M. 03)

(vi) Find the probability of a randomly selected student be a student who scored more than the mode. (M. 01)

(05) (a) The shape of the base of a cuboid shaped tank is given below.



(i) How much is the length is greater than the breadth. (M. 03)

(ii) Find the area of the base. (M. 03)

(iii) If the height of the tank is 2m find the capacity of the tank in litres. (M. 03)

(iv) Simplify. $43.2 \div 1.2$ (M. 02)

(06)

(i) Draw a circle of radius 4cm and name the centre as O. Draw the diameter AOB on it. (M. 03)

(ii) Mark the point C on the circle such that AC = 4cm. (M. 01)

(iii) Complete the triangle ABC and state the type of the triangle. (M. 02)

(iv) Shade the minor segment of the figure. (M. 02)

(v) Mark the point D on the circle which lies opposite side of the point C and get the AOD sector. Mark the central angle of that sector as "x" (M. 03)

(07) (i) Draw a suitable Cartesian plane and plot the below points then join them in order.

(2, 4), (4, 2), (7, 1), (4, 0), (2, -2), (0, 0), (-3, 1), (0,2) (M. 06)

(ii) Draw the axes of symmetry of the figure obtained and write down their equations. (M. 04)

(iii) Write down the order of rotational symmetry of that figure. (M. 01)