SECOND TERM TEST - 2019

SUBJECT - **Mathematics**

Grade **7**

School : ....

Name of the Student/ Index No : ....

....

Time : **2** hrs.

Part -I

Answer all the questions on the paper itself.

(01) Draw all symmetrical axes of the given figure.
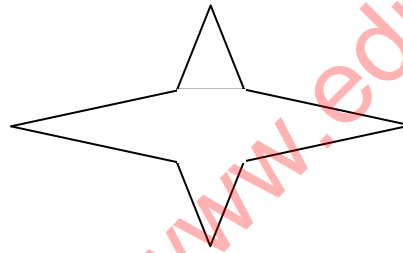
(02) $A = \{ 1, 3, 6, 10 \}$

Describe set A using words.

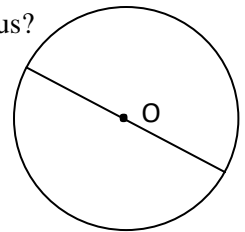(03) Put a √ for correct statements.

$3 - 7 \times 4 = 40$ ....

$12 - 8 \div 4 = 1$ ....

$3 + 7 \times 4 = 31$ ....

$12 - 8 \div 4 = 5$ ....

(04) Simplify. $83.6 \div 4$

(05) Centre of the given circle is O and the diameter of it is $8cm$. What is the value of the radius?

(06) Express 100 as a product of prime factors.

(07) The starting date of a work is 20th September 2016. The ending day of it is 24th May 2018. what is the duration of the work in years, months and days?
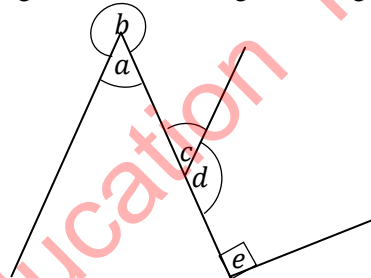
(08) Name the lines parallel to AB and SR lines of the given straight lines.
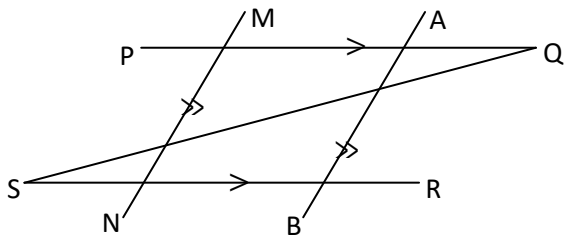
(09) Shown below is an activity done by Amal to simplify a problem with two numbers using a number line. What is the problem?
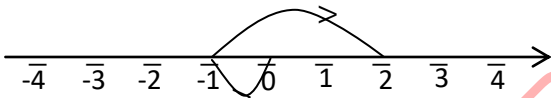
(10) Find a right angle and a reflex angle of the given angles.

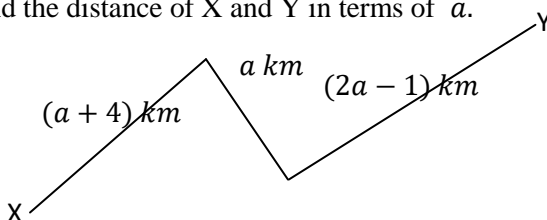right angle.......................................

reflex angle....................................

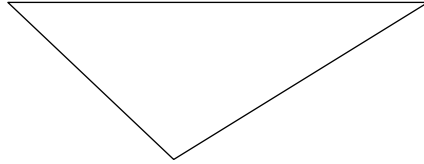(11) The price of $0.5m$ ribbon is Rs. 18. Find the price of $3m$ of ribbon.

(12) Write 0.75 as a fraction and write in the simplest form.

(13) Find the distance of X and Y in terms of a.

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(14) Express $2020g$ in kg and g.

(15) Mark the obtuse of the given triangle and name it as $P\hat{Q}R$.

(16) The price of a pen is Rs. x. Amal bought four pens. He gave Rs. 100 to the vendor and got Rs.40 as the balance. Build up an equation according to the given information.

(17) Expand and find the value. $2^3 \times 3^2$.

(18) The digital root of a number is 3. It is between 150 and 160 and it is divisible by 4. What is the number?

(19) Find the length of a side of a square which is equal to the perimeter of this triangle.

$9cm$

$5cm$
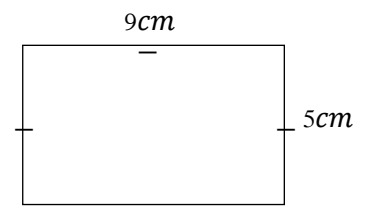
(20) What is the smallest number making remainders of 2 divisible by 3,4 and 5?

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Part II

❖ **Answer 5 questions including the question no. 1**

(01) a)

The above figure shows a small bridge. The maximum mass can be transported on the bridge is $2500kg$. The mass of the lorry is $800kg$. It carries 30 sacks of paddy. The mass of one such sack is $50.5\ kg$.

i.   Write the mass of the lorry.   (01 mark)

ii. Express the mass of a paddy sack in kilograms and grams.   (01 mark)

iii. What is the mass of 30 paddy sacks?   (02 marks)

iv. The assistant of the lorry says that the lorry cannot go across the bridge. Do you agree with it or not? Give reasons.   (03 marks)

b)
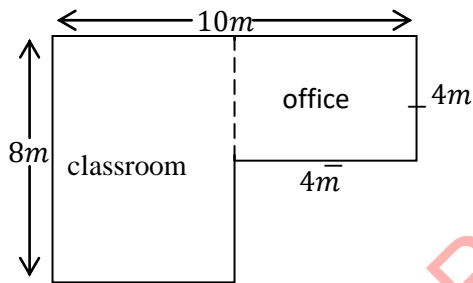
The above figure shows a sketch of a preschool.

i.   Find the breadth of the classroom.   (01 marks)

ii. Find the area of the classroom.   (02 marks)

iii. Find the total area of the classroom and the office.   (03 marks)

iv. They decided to paint the floor of the classroom with red paint and the office with black paint. The Painter says he charges Rs 500 for 1m² of red paint and Rs.400 for 1m² of black paint. Find the total cost for the paints.   (03 marks)

(02) a) i. Find the H. C. F of 12,24 and 18   (2 marks)

$12 = 2 \times 2 \times 3$

$24 = 2 \times 2 \times 2 \times 3$

$18 = 2 \times 3 \times 3$

ii. There are blue, red and yellow bulbs lighted in a line of bulbs. Blue bulbs are lighted in every 6 seconds, red bulbs in every 5 seconds and yellow bulbs in every 3 seconds. After how many seconds do all the bulbs light?

iii. If all the bulbs were lighted at 7 p.m., how many times do all the bulbs lighted between 7.00 p.m. and 7.05 p.m.?   (3marks)
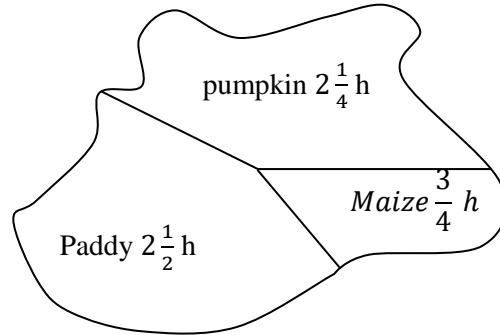
b) $x = 2^3 \times 5$

   $y = 2^2 \times 5^2$

   x and y are represented two numbers as indices.

   i.   What is x?   (01 mark)
   ii. What is y ?   (01 marks)
   iii. Find the LCM of x and y (02 marks)

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(03) The figure shows cultivation of 3 crops in a farm in hectares.

pumpkin $2\frac{1}{4}$ h

$Maize \frac{3}{4}$ h

Paddy $2\frac{1}{2}$ h

   i.   Which crop covers the largest area of the land?   (01 marks)

   ii. What is the difference between the area covered with paddy and maize? (03 marks)

   iii. What is the total area of the land in hectares?   (03 marks)

   iv. It is decided to add the land cultivated pumpkin and maize together and divide into 3 equal parts for the next season. The farmer hopes to cultivate chili in two parts and vegetables in one part. What is the area of land for chili cultivation?   (02 marks)

   v.   The farmer says that the area for vegetable cultivation is more than one hectare. Do you agree with this? Give reasons.   (02 marks)

(04) The following figures show a fruit drink bottle and an empty vessel.

2.5l

A
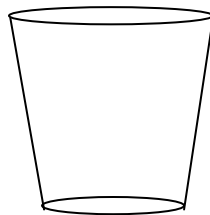
B

   i.   Write the amount of fruit drink in the bottle A in ml.   (01 mark)

   ii. A half of the amount in bottle A is poured into the vessel B. What is the amount of drinks in the vessel B? (02 marks)

   iii. 3l of water is added to the amount of drink in B vessel and made a drink. It is poured into 25 glasses of which the volume of one glass is 200ml. Find the remaining amount of drink in B. (04 marks)

b) The length of a cuboid is 3 times of its breadth. The height is 2 times of its length. If the breadth is 5cm ,

i. Find the length and the height of the cuboid.   (2 marks)
ii. The volume of a certain cuboid is 72cm^3 , write a set for the length, breadth and height of it different from each other.   (2 marks)

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(05) Following are some shapes taken for a decoration.

(a)   (b)   (c)   (d)   (e)   (f)
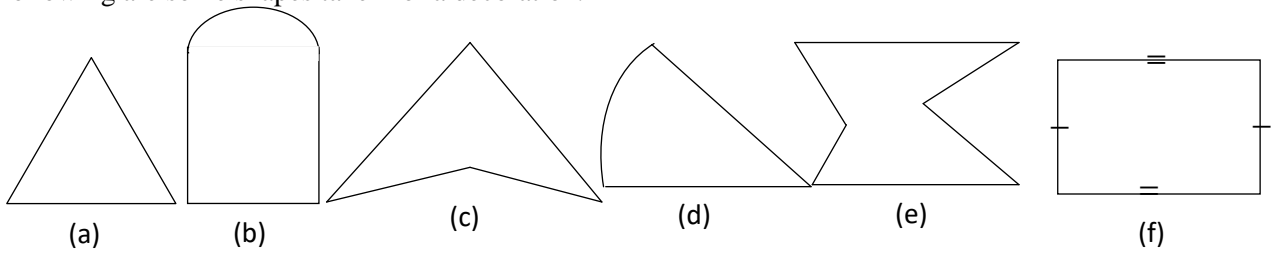
    i.   Name the concave polygons.   (02 marks)

    ii.   Name the convex polygons.   (02marks)

The length of the given rectangle is 3 units less than 2 times of its breadth. The breadth is x.

x
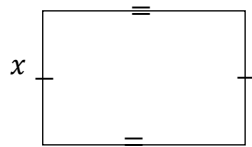
    i.   Express the length of the rectangle in terms of x (02 marks)

    ii.   Write an algebraic expression for the perimeter of the rectangle. Simplify the expression.   (02 marks)

    iii.   If the perimeter is $24cm$, find the width of the rectangle.   (03 marks)

C

$5cm$

$60°$ B

A $7cm$
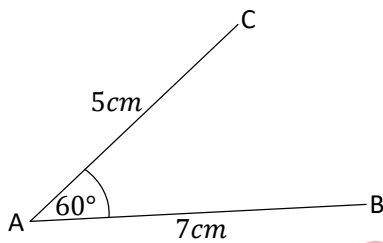
(06)

    i.   Using straight edge and protector copy down the given figure to your answer sheet.   (3 marks)

    ii.   Draw a straight line segment which passes through *C* and parallel to *AB* line using set squares and straight line.   (2 marks)

    iii.   Draw a straight line segment which passes through *B* and parallel to *AC* line using set square and straight edge. Mark the point *D* on the meeting point (intersecting point) of the above parallel lines.   (2 marks)

    iv.   What is the figure you have obtained?   (1 mark)

    v.   Draw a circle with centre *C* and radius *CB*. Measure and write the value of the diameter.   (1 mark)