බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව
மேல் மாகாணக் கல்வித் திணைக்களம்
Department of Education - Western Province

වර්ෂ අවසාන ඇගයීම			
ஆண்டிறுதி மதிப்பீடு		- 2016	
Year End Evaluation			

ශ්‍රේණිය தரம் Grade } 09	විෂයය பாடம் Subject } **Mathematics**	පත්‍රය வினாத்தாள் Paper } **I,II**	කාලය காலம் Time } 02 hours

Name :- ....   Index No :- ....
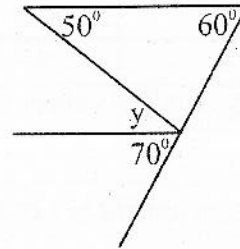
Part - I

❖ **Answer the question 1 to 20 on this paper itself.**

❖ **Each question carries 02 marks.**

(01) Round off 3.2074 to two decimal places.

(02) Find the general term of the number pattern, -7, -14, -21, -28, ...

(03) Find the value of y.

(04) The ratio between the circumferences of two circles is 2:3. If the radius of the small circle is 14 cm, what is the radius of the large circle?

(05) Simplify. $\dfrac{3x+5}{5} + \dfrac{x}{5}$

(06) Yasiru calculated the percentage of $\dfrac{5}{8}$ using a calculator. The keys that he used is given below in order. But the symbols of some keys were erased. Write the missing symbols in relevant blank box.
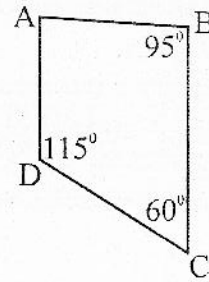
ON	5	.....	8	.....	=

(07) According to the given information, show that $B\hat{A}D = 90^0$.

A ┌────────┐ B
   95°

D 115°

60° C

(08) A train travels 38 km within 30 minutes. What is the speed of it in kilometers per hour?

(09) When selling an article, 10% of the marked price is reduced. A person who bought a shirt, paid Rs. 75 less than the marked price of it. What is the marked price of the shirt?

(10) Ravindu adds $\frac{1}{8}$ m³ of water to his fish tank ones every three months. Write this amount in litres.

(11) If $b = \frac{3}{4}$, find the value of $3 - 4b$.

(12) Kamal borrowed Rs. 10 000 at simple interest and at the end of the year, he paid Rs. 1500 as the interest. Find the annual simple interest rate.

(13) Make x the subject of the formula, $y = \frac{x}{2} + c$.

(14) Find the number of sides in a regular polygon in which one interior angle is 135^0.

(15) The coordinates of two points which lies on $y = x$ line is given below. Fill in the blanks of it.

(5 , ...)   (-8 , ...)
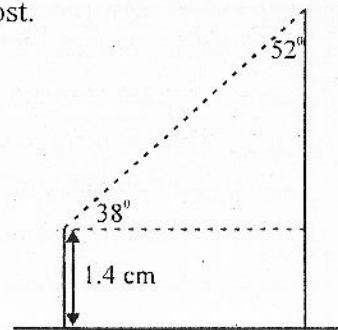
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(16) The figure shows a man who was looking at the top of a flag post.

The figure is drawn to the scale 1:100.

(i)   What is the actual height of the man?

(ii)   What is the angle of elevation from the man to the top of the flag post?

52°

38°

1.4 cm

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(17)   Find the factors of $y^2 + 11y + 18$.

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(18) According to the frequency distribution given in the following table,

(i) Write the model class.

(ii) Find the upper limit of the model class.

class interval	frequency
10 - 19	7
20 - 29	10
30 - 39	15
40 - 49	18
50 - 59	12
60 - 69	3

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(19) In a container there are some identical cards. Numbers from 1 to 8 is written on each card. A card is taken out randomly.

(i) Write the sample space of possible outcomes.

(ii) Find the probability of getting a card with an even number.

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(20) According to the information given in the figure, show that $AB^2 + BC^2 = AD^2 + DC^2$.


A

D

B

C
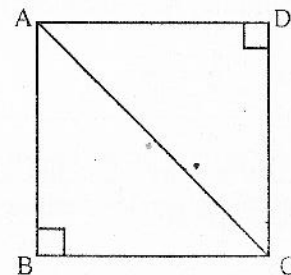
Part II

♦ Answer the first question and 4 more questions.

♦ First Question carries 16 marks and other questions carry 11 marks each.

(01) (a) Recollect the activity you have done in the classroom, using the plane figures, parallelogram, trapezium, triangle and circle.

    (i) Write a formula that you have used to calculate the area of one of the above mentioned figures.

    (ii) Given below is a figure that you have used during the activity.
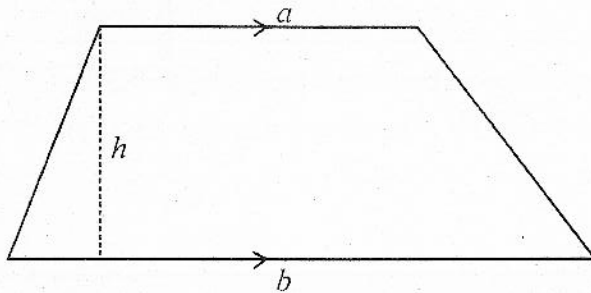
If $a = 15cm$, $a + b = 32cm$ and area of the figure is $96cm^2$, write a pair of whole number values that h and b can have.

  (b) (i) The figure shows a square based gift pack. The area of the square base of it is $400cm^2$ and the height is 30cm. Find the volume of it.
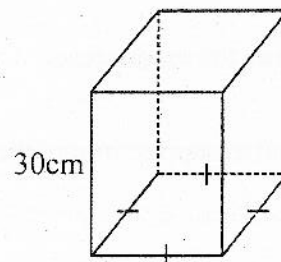
    (ii) The above pack is needed to be covered using a wrapping paper. Find the minimum area of the paper needed for it.

    (iii) Is a paper with the length 78cm and the breadth 38cm, be sufficient for the above purpose? Give reasons for your answer.

    (iv) If the price of the above mentioned paper is Rs. 35, what is the total amount of money needed to cover the above pack completely?

(02) (a) Simplify the following fractions and express the answer in simplest form.

    (i) $\dfrac{1}{5} + \dfrac{2}{5}$ (ii) $2\dfrac{1}{4} \div \dfrac{5}{8}$

  (b) A father gave $\dfrac{1}{3}$ of his land to his son and sold $\dfrac{1}{4}$ of the remaining land for Rs. 60 000.

    (i) What fraction of the whole land is remaining after giving to the son?

    (ii) What fraction of the whole land is sold?

    (iii) What is the value of the whole land?

(03) (a) 10 pens can be bought from the money needed to buy a book. It cost Rs. 150 to buy 5 pens and a book. The price of a pen is Rs. x.

    (i) Write the price of a book in terms of x.

    (ii) Construct an equation containing x.

    (iii) Solve the equation and find the price of a pen and the price of a book.

  (b) Solve the pair of simultaneous equations given below.

$$3x + y = 9$$
$$2x + y = 7$$

(04) (a) Write suitable values for blank cages.

$$\left(x^2 \times x^{\square} \right) = \left(\frac{x^{\square}}{x^3 \times x^0} \right)$$

$$\Vert \qquad\qquad \Vert$$

$$\left(\frac{x^7 \times x^{\square}}{x \times x^8} = x^9 \right) = \left(\frac{\left(x^{\square}\right)^2 \times x^5}{x^2} \right)$$

  (b) Write suitable values for blank cages.

$$2^{\square} = 32 \;\rightarrow\; \log_{\square} \square = 5$$

(05) Using only a pair of compasses and a straight edge do the following constructions.

    (i) Construct the straight line segment AB, which is 6cm long. Construct 60^0 angle at A and name it as $B\hat{A}C$.

    (ii) Construct the angle bisector of $B\hat{A}C$ and mark the point D on the angle bisector, which is 7cm away from A.

    (iii) Construct a parallel line to AB through D.

    (iv) Mark the point E on the parallel line, such that AB = DE.

    (v) What type of a quadrilateral is ABED?

(06)
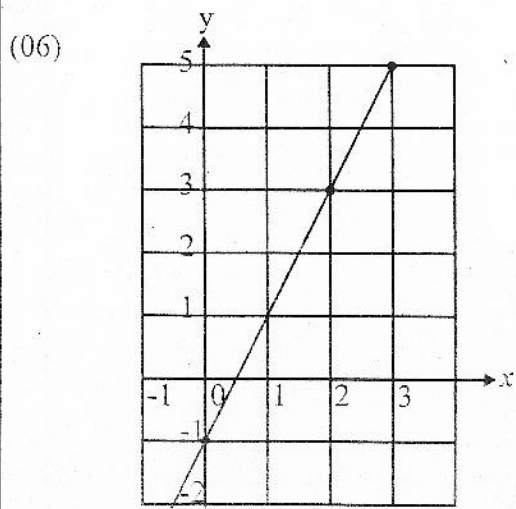
  (a) In the given graph of the straight line.

    (i) What is the intercept?

    (ii) Find the gradient.

    (iii) Using the gradient and the intercept, write the equation of the straight line.

  (b) Draw a Cartesian plane and shade the region $y \geq -2$ on it.

(07)
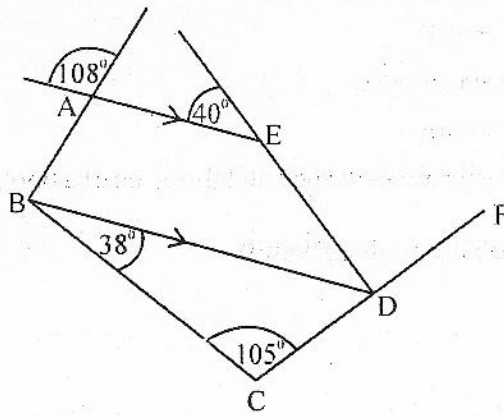
According to the information given in the diagram,

(i) What is the magnitude of $B\hat{D}C$?

(ii) $B\hat{D}E = 40^0$. Write the reason for that.

(iii) Find the magnitude of $E\hat{D}F$.

(iv) Find the magnitude of $A\hat{B}D$.

(v) Show that ABCDE is a pentagon.