කොට්ඨාශ අධ්‍යාපන කාර්යාලය – රත්නපුර **01**

Divisional Education Office - Ratnapura 01

கோட்டக் கல்விக் காரியாலயம் - இரத்தினபுரி

පළමුවැනි වාර පරීක්ෂණය – **2020**

First Term Test – 2020

மூன்றாம் தடஉணைப் பரீட்சை - 2020

ශ්‍රේණිය : **09**	විෂය : ගණිතය
Grade : **09**	Subject : Mathematics
வகுப்ப : **09**	விடயம் :

කාලය : පැය 2 යි මි. 30
Time : 2 hour & 30 mi.
நேரம்:

Index No. ....

Part I

- Answer all the questions in this paper itself

(1) Find the profit percentage gain by selling a child frock worth Rs. 300/= at Rs. 360/=

(2) Find the 8th term of the number pattern for which the general term 5n-2
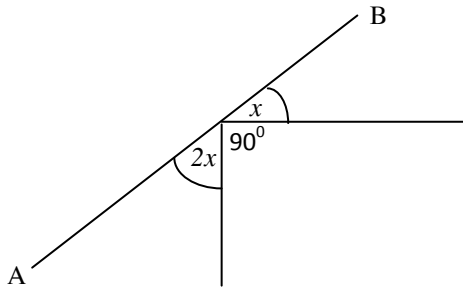
(3) Convert the following binnary number in to a decimal number

10001 $_{two}$

(4) Express $\dfrac{2}{5}$ of $1\dfrac{2}{5}$ hours in minutes.

(5) Find the value of 8P – 6q, when $P = \dfrac{1}{2}$ and $q = -\dfrac{1}{3}$

(6)

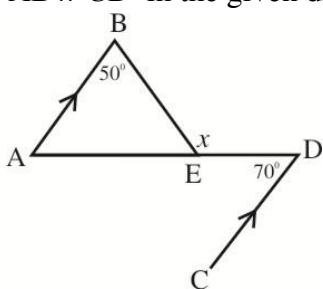If AB is a straight line, Fine the value of x

(7) Solve $-2x\,(x+5y)$

(8) When selling a vehicle which was worth Rs. 1 500 000, he paid Rs. 120 000 as commission Calculate the commission percentage that he paid.

(9) Kamal owns $\frac{3}{5}$ of a land and he gave $\frac{1}{2}$ of his portion to his son Find the son's portion as a froction of whole land.

(10)

If AB = CD in the given figure, show that , AC = BD

(11) Simplify using the knowledge of factors
x^2 - 25

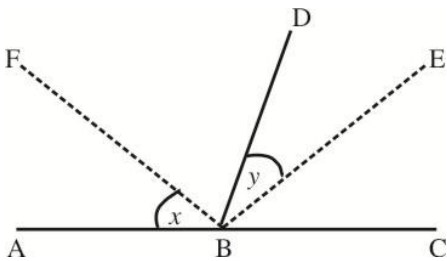(12) AB // CD in the given diagram Find the magnitude of x

(13) $x^2 + 2x - 35$ Factorize

(14) $\frac{(-6)x\,(+8)}{(-12)}$ Find the value.

(15) Find the factors,

ax – a - x +1

(16) Bisectors of $A\hat{B}D$ and $D\hat{B}C$ are BF and BE respectively, Find the value of $F\hat{B}E$
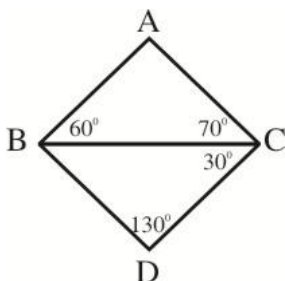

(17)   1101 $_{two}$ + 10 $_{two}$ Simplify

(18) Find the capacity of a vessel,

80cm x 20cm x 10cm in liters.

(19) Simplify, 3 (a-b) + 4 (2a+b)

(20)

According to the given diagram,
i.   Name a pair of complimentary angles
ii. Name a pair of supplementary angles

Part II

Answer 5 questions Only

(1) a) (i) How much is $\frac{4}{5}$ of 3000 rupees? (2 marks)

    (ii) Find the value of. $\frac{5}{6} \div (2\frac{2}{3} + 1\frac{1}{2})$ (3 marks)

  b) Nimal gave $\frac{1}{2}$ of his 12ha land. to his son and $\frac{1}{3}$ of his daughter

    (i) What fraction of the total land was received by son and daughter. (3 marks)

    (ii) Express the remaining portion of the land as a fraction of whole land? (1 marks)

    (iii) Nimal gave ½ of the remaining portion of the land to his brother. How many hectares received his brother. (3 marks)

(2) General term of a number pattern is 20-3n

    (i) Write the first 3 terms (3 marks)

    (ii) Find the 10th term. (2 marks)

    (iii) Which term is equal to 36? (3 marks)

    (ii) Show that 63 is not a term of this number pattern. (4 marks)

(3) (i) Expand and simplify
3(a-b) -4 (2a+b) (3 marks)

    (ii) The figure of a large rectangle which is composed of four sections given below has used to expand (x+2) (x+1). Fill in the blanks using it.
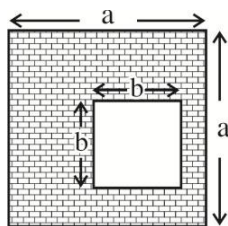
$(x+2)\,(x+1)$ $= x^2 + ... + x+2$
$= x^2 + ... + 2$ (3 marks)

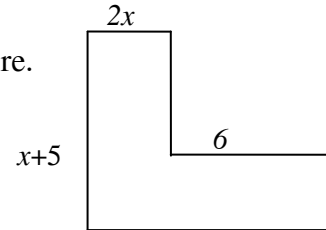   (iii) Write an expression for the shaded area in the given figure, and find the factors.

    (iv) Write the following algebraic expression as a product of factors (3 marks)
$4a - 8a^2b - 16ab$

(4) a) A carpenter spends Rs. 9000/= in producing a table. He sells the table to a vender at a profit of 20%. The vender marks the price of the table at a profit of 25%
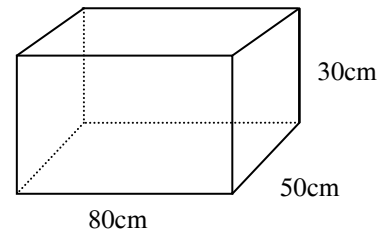
    (i) How much does the vender spend to buy the table ? (3 marks)

    (ii) Find the marked price of the table? (3 marks)

    (iii) When selling the table, the vender offered a 5% discount to the customer. How much needs to be paid when purchasing the table? (3 marks)

b)   (i) Write an expression for the perimeter of the given figure. (1 marks)

    (ii) Simplify the above expression (2 marks)

(5) The length, width and height of a fish tank are 80cm, 50cm, 30cm respectively.
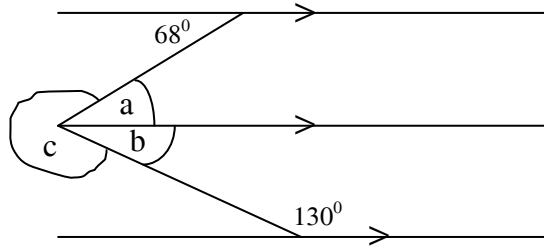
    (i) Find the volume of the tank. (3 marks)

    (ii) Express the capacity of the tank in liters. (3 marks)

    (iii) How many times should pour water to fill the above tank by a vessel of $2l$ capacity. (2 marks)

(b) $1\ 0\ \square\ 1\ 0_{two}$ fill in the blanks

    $\underline{\qquad 1\ 0\ 1_{two}}$

    $\underline{\underline{\square_{\ 1}\square\square}}_{\ two}$
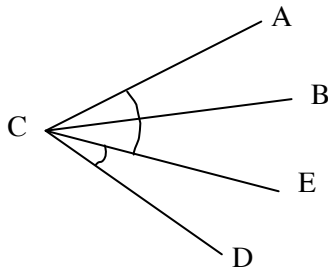
(6) a. Based on the information given in the figure,
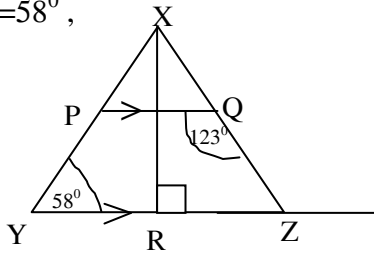

Giving reasons,

  (i) Find the value of a   (2 marks)

  (ii) Find the value of b   (3 marks)

  (iii) Find the value of c   (3 marks)

(b). In this given figure, $A\hat{C}E = B\hat{C}D$ ahow that $A\hat{C}B = E\hat{C}D$ (4 marks)

(7) The diagram shows the triangle XYZ PQ // YZ and XR perpendicular to YZ if $P\hat{Q}Z = 123^0$ and $P\hat{Y}Z = 58^0$,

By giving reasons,

  (i) Find $X\hat{P}Q$ (2 marks)

  (ii) Find $Y\hat{Z}X$ (2 marks)

  (iii) Find $P\hat{X}Q$ (3 marks)

  (iv) Write a pair of supplementary angles.   (3 marks)

(b) Find the general term of the number pattern 16, 9, 2, ...   (3 marks)