

نوٹ: حصہ دوم لازمی ہے۔ حصہ سوم میں سے کوئی سے تین سوالوں کے جوابات لکھنے لیکن سوال نمبر (9) لازمی ہے۔

Note:- Section B is compulsory. Attempt any three (3) questions from Section C but question No. 9 is compulsory.

## (SECTION-B) (حصہ دوم)

2. Write short answers to any six parts. (6x2=12)

i. Define Square Matrix.

ii. Find  $2A+3B$  if  $A = \begin{bmatrix} 2 & 3 \\ 1 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} 5 & -4 \\ -2 & -1 \end{bmatrix}$ iii. Simplify by using laws of indices.  $\frac{4(3)^n}{3^{n+1} - 3^n}$ iv. Simplify.  $\sqrt[4]{81y^{-12}x^{-8}}$ v. Find the value of  $x$ .  $\log_2 x = 5$ vi. Write  $2 \log x - 3 \log y$  in the form of a single logarithm.vii. Simplify.  $\left(\sqrt{2} + \frac{1}{\sqrt{3}}\right)\left(\sqrt{2} - \frac{1}{\sqrt{3}}\right)$ viii. Rationalize the denominator.  $\frac{1}{3+2\sqrt{5}}$ ix. Factorize.  $\frac{a^2}{b^2} - 2 + \frac{b^2}{a^2}$ 

3. Write short answers to any six parts. (6x2=12)

i. Find H.C.F of  $39x^7y^3z$  and  $91x^5y^6z^7$ ii. Solve the equation.  $\sqrt{3x+4} = 2$ 

iii. Define Linear Equation.

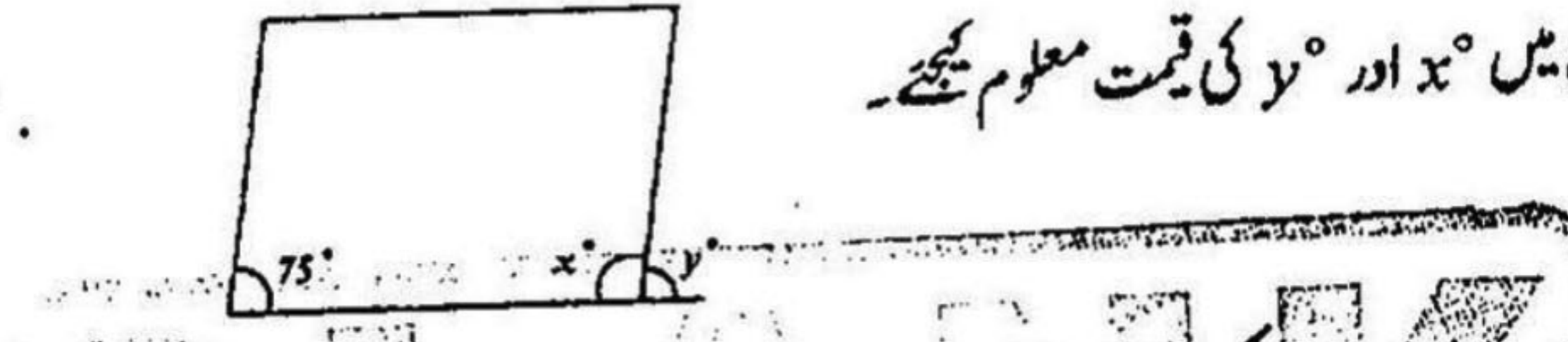
iv. Define Cartesian Plane.

v. Find the value of  $m$  and  $c$  of the line by  $2x+3y-1=0$   $y = mn + c$  میں ظاہر کرنے کے بعد  $m$  اور  $c$  کی قیمتیں معلوم کیجئے۔

vi. Write distance formula between two points.

vii. Find the mid point of line segment joining.  $A(2, -6)$   $B(3, -6)$ 

viii. Define Congruent Triangles.

ix. In given parallelogram find value of  $x^\circ$  and  $y^\circ$ .

4. Write short answers to any six parts. (6x2=12)

i. What is meant by angle?

ii. If 3cm and 4cm are lengths of two sides of a right angled triangle, then what should be the third length of the triangle?

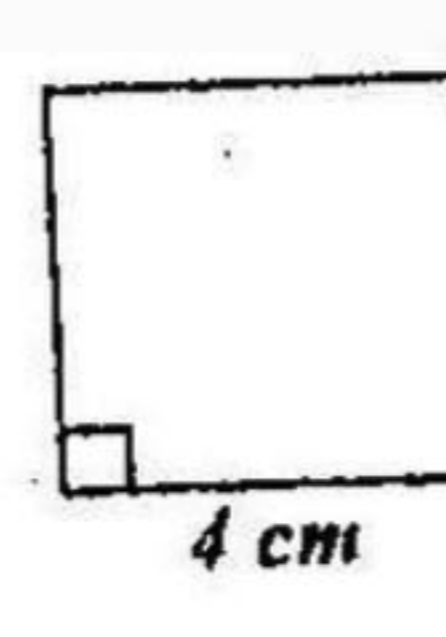
iii. What is meant by proportion?

iv. Find the value of  $x$  in the given figure.

v. Write down the converse of Pythagoras theorem.

vi. What is meant by rectangular region?

vii. Find the area of given figure.



viii. Define Median of a Triangle.

ix. Construct  $\triangle ABC$  in which:  $m\overline{AB} = 3cm, m\overline{AC} = 3.2cm, m\angle A = 45^\circ$ 

(Turn Over) (ورق الٹیے)

(2)

## (SECTION-C) (حصہ سوم)

کوئی سے تین سوالات کے جوابات دیجئے۔ ہر سوال کے آٹھ نمبر ہیں۔ لیکن سوال نمبر (9) لازمی ہے۔ (4+4=8)

Attempt any three questions. Each question carries Eight marks. But question No.9 is compulsory. (4+4=8)

5. (a) Solve by the Cramer's rule.  $2x + y = 3$   $6x + 5y = 1$  (a).5(b) Use laws of exponents to simplify.  $\frac{(81)^n \cdot 3^5 - (3)^{4n-1} (243)}{(9^{2n})(3^3)}$  (b)6. (a) Use logarithm to find value of:  $\frac{(438)^3 \sqrt{0.056}}{(388)^4}$  (a).6(b) If  $x = 2 + \sqrt{3}$ , find the value of  $x - \frac{1}{x}$  and  $\left(x - \frac{1}{x}\right)^2$  اگر  $x = 2 + \sqrt{3}$  ہو تو  $x - \frac{1}{x}$  اور  $\left(x - \frac{1}{x}\right)^2$  کی قیمت معلوم کیجئے۔ (b)7. (a) Determine the value of  $k$  if  $p(x) = kx^3 + 4x^2 + 3x - 4$  and  $q(x) = x^3 - 4x + k$  leaves the same remainder when divided by  $(x-3)$ . (a).7(b) Use division method to find the square root of the given expression.  $9x^4 - 6x^3 + 7x^2 - 2x + 1$  بذریعہ تقسیم بجز المربع معلوم کیجئے۔ (b)8. (a) Solve.  $-5 \leq \frac{4-3x}{2} < 1$  (a).8(b) Construct the  $\triangle PQR$  and draw the altitudes.  $m\overline{PQ} = 6cm, m\overline{QR} = 4.5cm, m\overline{PR} = 5.5cm$  (b)

9. Prove that any point on the right bisector of a line segment is equidistant from its end points. ثابت کیجئے کہ اگر ایک نقطہ کسی قطعہ خط کے عمودی ناصت پر واقع ہو تو وہ نقطہ قطعہ خط کے سروں سے مساوی الفاصلہ ہوگا۔

OR

یا

ثابت کیجئے کہ ایسی مثلثیں جن کے قاعدے اور ارتفاع برابر ہوں وہ قہ میں برابر ہوں گی۔

Prove that triangles on equal bases and of equal altitudes are equal in area.