CLASS:VIII   **SUBJECT :MATHS**

TOPIC: 1. CONSTRUCTIION OF QUADRILATERALS
       2. ALGEBRIC EXPRESSIONS &IDENTITIES
       3. DIRECT AND INVERSE VARIATIONS

SECTION-A

A. Multiple Choice Questions

1. Degree of Polynomial $5x^3 - 4x^2y^2 + 7x^2-2$ is :
    a. 1   b. 2   c. 3   d. 4
2. 4 men can complete a job in 3 days.How many days are required to complete same job by 3 men.
    a. 2   b. 4   c. 6   d.8
3. Diagonals of square
    a. Are perpendicular   b. are equal   c. bisect each other   d. All of these
4. If two quantities a and b vary inversely with each other ,then
    a. a X b remains constant   b. a+b remains constant
    c. a-b remains constant   d. a÷ b remains constant
5. The sum of a-b +ab , b-c+bc , c-a+ ac is:
    a. a+b+c   b. ab + bc+ca   c.$a^2+b^2+c^2$ d. none of these

SECTION-B

1. Identify the terms and their coefficients for each of the following
    i) $7x^2y$ -3y   ii) $3x^2y^2$-z+6   iii) 6-xy^2 +5z^2 iv) $\frac{x^2}{2}$ -$\frac{y^2}{3}$ +4xy

2. Classify the following terms as monomial, binomial or trinomial. Also find out which polynomial does not fit in any one of following category.
    i) 3xy + y   ii) 96   iii) 4x +7xy   iv) 3x- $7y^2$ +1
    v) x^2+xy+y^2-7   vi) xyz   vii) 2a-b   viii)7a-7a^2
    ix) $4x^2$-5x-2

 3. Subtract
    i) $6x^2y^2$- $7x^2y$+4xy^2 +11 from $5x^2y^2$- $3x^2y$+5xy^2 +7
 4. Add 2xy +3yz-6xz, 4xy -2yz+7xz and –xy-2yz+4xz
 5. What should be taken away from $5x^2$ +4y^2 +10xy to obtain $2x^2$ +6y^2 +9xy
 6. Find the Product
    i) a^2b, -2a^3b^2,ab
    ii) 4mn^2 , 2m^2n^2, -3mn^3
    iii) ($\frac{3}{2}$ x^3y^2) , ($\frac{-2}{3}$ xy) , (2xy^3)
 7. Find the product of x^2y X (-2xyz) X xy^3 also verify the result when x = 2 y =1 z =3

SECTION-C

 8. Simplify
    i) 6x (x - 3) +x (2- 5x)+3x^2
    ii) 4xy (y-x) -3y^2 (x^2- x) – 5x^2 (y- y^2)

9. Find the following products

   i) $(x^2 - xy + 2y^2)(x+2y)$

   ii) $(x^2 - 3x + 4)(4x+1)$

10. Evaluate using identities

   i) $(104)^2$ ii) 75 X 65   iii) 101 X 99

   iv) $(a+2)(a-2)(a^2+4)$ v) $(x^2+1)(x-1)(x+1)(x^4+1)$

   vi) 102 X 103   vi) 66 X 68

   viii) $(7x - 4)^2$ ix) $(4l + 5m)^2$

   x) $(2x+5y)(2x-5y)$

SECTION-D

11. Simplify

   i) $(2x-1)^2 - (x-1)^2$

   ii) $\dfrac{176 \times 176 - 124 \times 124}{52}$

   iii) $\dfrac{324 \times 324 - 276 \times 276}{48}$

   iv) $(12.9)^2 - (7.9)^2$

12. Show that

   $$\dfrac{(6a - 5b)^2 - (6a + 5b)^2}{ab} = -120$$

CONSTRUCTIION OF QUADRILATERALS

1. Construct a quadrilateral PQRS RS= 5cm, PR=PS=6cm,QR= 7.5 cm QS= 10cm.
2. Construct a quadrilateral ABCD in which AB= 3.5cm BC=4cm CD=4.5cm AC=5cm and BD=5.5cm
3. Construct a quadrilateral AB=5.6cm ,BC=4.1cm, CD= 4.4cm,AD=3.3cm and $\angle A$=75°
4. Construct a quadrilateral ABCD in which AB= 3.5cm ,BC=3.4cm , CD=4.7cm, AD=5.2cm and $\angle B$=80°
5. Construct a quadrilateral TRUE in which TR=4cm ,RU=5cm ,UE=4.5cm ,$\angle R$=60° and $\angle U$=90°
6. Construct a quadrilateral PQRS, where PQ=4cm , QR=5cm, $\angle P$=60° , Q=100° and R=75°
7. Construct a IIgm ABCD where BC=6cm,CD=4.5cm and BD =7.5cm
8. Construct a rhombus ABCD, length of whose diagonals are 6 cm and 5cm.
9. Construct a rhombus with side 4.5 cm and diagonal 6cm.

DIRECT AND INVERSE VARIATIONS

1. Car is moving at the average speed of 60km/hr. How much distance would it cover in 20 min?
2. 18 men can dig a $7\frac{1}{2}$ m long trench in one day. How much men should be employed for digging 20 m long trench of the same type in one day?
3. A bus travels 12.5 km in 15 minutes. If the speed remains the same, How far can it travel in 4 hours 45 minutes?
4. 36 men can do a piece of work in 25 days, If work is to be finished in 60days.How many men will be required?
5. In a hostel, 100 students had provision for 130 days. After 10 days, 20 students left the hostel. How long would the remaining food last?
6. A garrison of 620 men had provision for 42 days. A reinforcement of 220 men arrived. How long the food will last?