Pradeep Sahajwani Classes *(BASE MAKER)*
IX – X CBSE (Maths / Science)
S-20, Vivekanand Colony, Bhopal, Phone : 0755-2751377, 9893213700

Time : 3 Hrs.   **(IX MATHS)**   **M.M. 80**

Section – A   **1x10 = 10**

Q1.   0.6666 …………. can be expressed in rational number form.
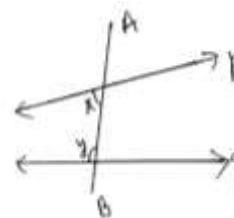
    a.   6/10   b.   3/5

    c.   2/3   d.   it is not a rational no.

Q.2   If $x = 2 + \sqrt{3}$ *then* $\dfrac{1}{x}$ *is*

    a. $\dfrac{1}{2-\sqrt{3}}$ b. $2-\sqrt{3}$ c. $\dfrac{1}{2}+\sqrt{3}$ d. $\sqrt{3}-\dfrac{1}{2}$

Q.3   In a figure if $\angle x + \angle y < 180$ than lines p and q will meet

    a.   right side of AB   b.   left side of AB
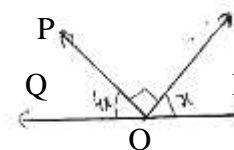
    c.   on either side of AB   d.   will never meet

Q.4   The coefficient of x^2 in $(2x^2-5)(4+3x^2)$ is

    a.   3   b.   -2   c.   8   d.   -7

Q.5   The value of angle POQ in figure

    a.   45   b.   60   c.   72   d.   36

Q.6 $\left(\dfrac{81}{625}\right)^{\frac{1}{4}} \times \left(\dfrac{576}{625}\right)^{\frac{-1}{2}}$ equals to

    a.   5/8   b.   9/25   c.   24/5   d.   none

Q.7   Which of the following needs proof.

    a.   axiom   b .   theorem

    c.   definition   d.   postulate

Q.8   In triangle PQR   PQ=8cm, QR = 9cm then greatest angle of PQR

    a.   angle Q   b.   angle P

    c.   angle R   d.   Can't determine

Q.9 Quadrilateral formed by P (-2, 2), Q(8,2), R (4,-4) and S (-6, -4) is

    a.   square   b.   Parallelogram

    c.   Rhombus   d.   Can't determine

Q.10 The remainder when $x^{11}+1$ divided by $x+1$

    a.   0   b.   11   c.   -11   d.   12

Section – B   **2x8 = 16**

Q11. Four points P,Q,R and S are such that PR = QS. Is PQ=RS? Justify it and also state the Euclid's postulate or axiom used here.

Q.12 Express $0.2\overline{98}$ in the form of p/q where p and q are integers $(q \neq 0)$

Q.13 The perpendicular distance of point A from X axis is 7 units and from y axis is 3 units then write the coordinates of point A if it lies in I quadrant and IV quadrant.

Q.14 Simplify $\dfrac{7+\sqrt{5}}{7-\sqrt{5}} + \dfrac{7-\sqrt{5}}{7+\sqrt{5}}$

Q.15 Evaluate $(0.2)^3 - (0.5)^3 + (0.3)^3$

Using suitable identity

Q.16 In a triangle ABC, D is mid point of BC and DE = DF perpendiculars on AB and AC where E and F are points on AB and AC Proof that ABC is isosceles triangle.

Q.17 In given figure if x-y = 60 then find the value of x and y.

Q.18 If $3\angle A = 4\angle B = 6\angle C \ in \ \square ABC$ then calculate $\angle A, \angle B \& \angle C$

Section – C   **3x10 = 30**

Q.19 Find the value of $a^3+b^3+c^3-3abc$ if a+b+c=12 and $a^2+b^2+c^2 = 70$

    OR

    If $x^2+y^2+z^2 = 250$ and xy+zy+zx = 3 then find x+y+z

Q.20 When $px^3-3x^2 + 13$ and $2x^2-5x+p$ are divided by x+2 the remainder is same. Find the value of p.

Q.21 If x = $2-\sqrt{3}$ then find the value of $x^3 + \dfrac{1}{x^3}$

Q.22 Locate $\sqrt{4.7}$ on no. line

Q.23 Simplify : $\sqrt[3]{216} - \sqrt[4]{625} - \sqrt[7]{128} + \sqrt{1}$

Q.24 Plot the points (-2, 4) and (-2, -3) and draw straight line

passing through them. Does (-3,0) lies on it justify by diagram.
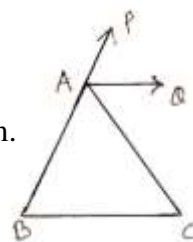
Q.25 In a figure ABC is isosceles triangle with AB = AC and

AQ bisect angle PAC prove that AQ $AQ \square BC$.

Q.26 ABC is isosceles triangle with AB=AC.   BA is produced to D such that AB=AD

show that angle BCD = 90^0.

Q.27 The lengths of sides of triangle are in ratio 6:8:10 Perimeter of triangle is 144 cm.

Find the area of triangle.
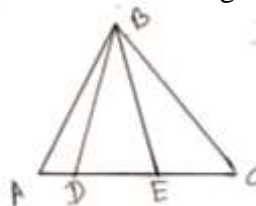
Q.28 In a given figure AB = BC and AD = EC

then prove that triangle $\square$ ABE $\cong$ $\square$ CBD

Section – D   **4x6 = 24**

Q.29 Show that the some of three altitudes of triangle is less than the perimeter of triangle.

Q.30 In a given triangle PQR, PS is a bisector of angle QPR and PT $\perp$ QR prove that angle

TPS = $\frac{1}{2}(\angle Q - \angle R)$. Using the result calculate angle TPS if angle Q = 48 and angle R = 22

Q.31 What would be value of $x^3 + y^3 + z^3$ if x+y+z = 0. Using it simplify

$\dfrac{(a^2-b^2)^3 + (b^2-c^2)^3 + (c^2-a^2)^3}{(a-b)^3 + (b-c)^3 + (c-a)^3}$
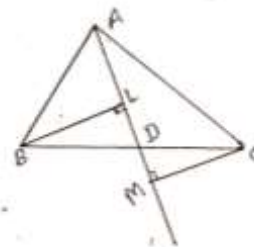
OR

Find the value of $(5-a)^3 + (5-b)^3 + (5-c)^3 - 3 (5-a) (5-b) (5-c)$ If a+b+c = 15

Q.32 Show that $\dfrac{0.75 \times 0.75 \times 0.75 + 0.25 \times 0.25 \times 0.25}{0.75 \times 0.75 - 0.75 \times 0.25 + 0.25 \times 0.25}$ is equal to 1

OR

Without actual division show that $x^4 + 2x^3 - 2x^2 + 2x - 3$ is exactly divisible by $x^2 + 2x - 3$

Q.33 In a given figure AD is median of triangle ABC   BL,

CM are perpendiculars on AD produced. Prove that BL = CM

CBSE Sample Papers | CBSE Guess Papers | CBSE Practice Papers | Important Questions | CBSE PSA |
CBSE OTBA | Proficiency Test | 10 Years Question Bank | **CBSE Guide** | CBSE Syllabus | Indian Tutors |
Teacher' Jobs CBSE eBooks | Schools | Alumni | CBSE Results | CBSE Datesheet | **CBSE News**

Q.34 Factorize $\dfrac{64}{125}x^3 - 8 - \dfrac{96}{25}x^2 + \dfrac{48}{5}x$

OR

a. Find x in a figure

b. Find $x^6 + \dfrac{1}{x^6} \ if \ x + \dfrac{1}{x} = 5$

CBSE Sample Papers | CBSE Guess Papers | CBSE Practice Papers | Important Questions | CBSE PSA |
CBSE OTBA | Proficiency Test | 10 Years Question Bank | **CBSE Guide** | CBSE Syllabus | Indian Tutors |
Teacher' Jobs CBSE eBooks | Schools | Alumni | CBSE Results | CBSE Datesheet | **CBSE News**