

Time: 3 hrs.

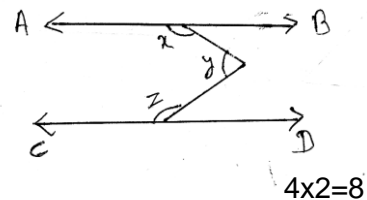
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Section-A

- Q.1 The degree of zero polynomial is
 a. 0 b. 4 c. 1 d. not defined
- Q.2 Which of the following is not polynomial?
 a. $\sqrt{7}x - 1$ b. $x\sqrt{2} + 2$ c. $3x^{-2} - x + 1$ d. all are polynomial
- Q.3 Zero of polynomial $5x - 125$ is
 a. -125 b. -25 c. 20 d. none
- Q.4 $1 + \sqrt{35}$ $1 - \sqrt{35}$ is
 a. positive integer b. irrational no c. negative integer d. whole no
- Q.5 Abscissa at y axis is
 a. 1 b. any negative no c. 0 d. all are correct
- Q.6 Two distinct lines :
 a. always intersect b. either intersect n parallel c. two common points d. always parallel
- Q.7 AB CD is a rhombus with angle ABC = 60 the measure of angle ACD is
 a. 30 b. 60 c. 120 d. 50

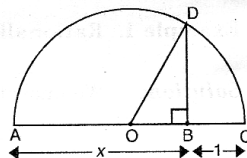
Q.8 The value of $\angle x + \angle y + \angle z$ in fig is AB parallel CD

- a. 180 b. 220 c. 360 d. can't say



Q.9. The value of BD in a given fig is:

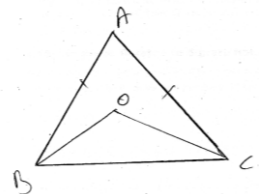
- a. 2x b. x+1 c. \sqrt{x} d. x-1



- Q.10 The value of $1728^{-2/3}$ is a. $\frac{1}{12}$ b. $\frac{1}{144}$ c. 144 d. none

Section- B

- Q.11 Find the remainder when $x^3 + 3x^2 + 5x + 6$ is divided by $x + 1$.
- Q.12 Find the area of a triangle two sides of which are 8cm and 11cm and the perimeter is 32cm.
- Q.13 If $27^x = 9/3^x$ find the value of x.
- Q.14 Explain Euclid's fifth postulate with diagram
- Q.15 In a given fig $AB = AC$ and $OB = OC$ prove that $\angle ABO = \angle ACO$
- Q.16 Represent $\sqrt{5}$ on no line
- Q.17 Factorize $p^3 + 27q^3 + 125r^3 - 45pqr$
- Q.18 Without actual calculation evaluate $35^3 + (-19)^3 + (-16)^3$ using suitable identity.



Section:-C

Q.19 Show that x-2 is a factor $p(x) = x^3 - 12x^2 + 44x - 48$

Q.20 Find the area of rhombus where one side is 25m and on diagonal is 48m. Find the length of another diagonal also.

Q.21 Simplify $\frac{27^{-\frac{2}{3}} \times 81^{\frac{5}{4}}}{\frac{1}{3}^{-3}}$

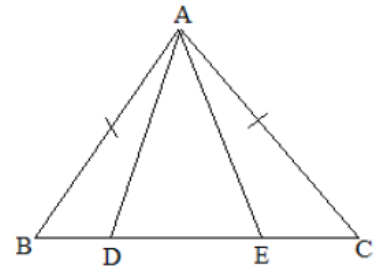
Q.22 Factorize: a) $x^9 - y^9$ b) $x^6 - 7x^3 - 8$.

Q.23 Express $0.\overline{7435}$ as a rational no.

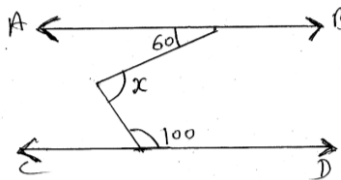
Q.24 If $x + p$ is a factor of $p(x) = x^5 - p^2x^3 + 2x + p + 1$ find the value of p

Q.25 If $p = 1 - \sqrt{2}$ Find $\left(p + \frac{1}{p}\right)^3$

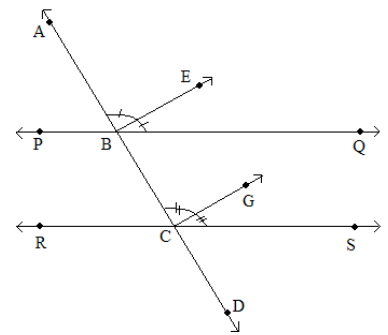
Q.26 In fig. ABC is an isosceles triangle with $AB = AC$. D and E are points on BC such that $BE = CD$ Show that $AD = AE$



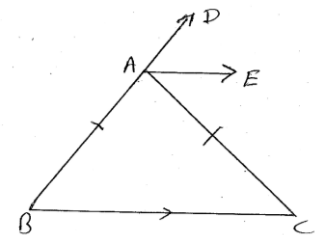
Q.27 In a given fig AB parallel CD determine $\angle x$.



Q.28 In fig. if a transversal intersects two lines such that the bisectors of a pair of corresponding angles are parallel, and then prove that two lines PQ and RS are parallel.



Q.29 In a given fig triangle ABC is an isosceles triangle in which $AB = AC$ and AE is a bisects of angle DAC prove that AE parallel BC.



Q.30 Prove that the sum of the angles of a triangle is 180° .

Using the above theorem, find the measure of each angle of an equilateral triangle.

Q.31 Plot the points A(4,3), B(4,-2), C(-3, -2) and D (3, 3) in Cartesian plan. Write the name of figure you obtained and find the area of fig.

Q.32 Simplify $\frac{1}{2 + \sqrt{5}} + \frac{1}{\sqrt{5} + \sqrt{6}} + \frac{1}{\sqrt{6} + \sqrt{7}} + \frac{1}{\sqrt{7} + \sqrt{8}} + \frac{1}{\sqrt{8} + \sqrt{9}}$

Q.33 State RHS congruence rule using in a triangle ABC, D is a mid point of BC. The perpendiculars DE from D to AB and perpendicular DF from D to AC are equal. Prove that triangle ABC is an isosceles triangle.

Q.34 Triangle ABC is an isosceles triangle $AB=AC$. Side BA is produced to D such that $AD = AB$. Prove that $\angle BCD = 90^\circ$.