SAMPLE TEST PAPER - 09 FOR CLASS 10

FULL SYLLABUS

📱 **Download Doubtnut Today**

This question paper consists of 30 questions divided into four sections – A, B, C and D

Section A contains 6 questions of 1 mark each

Section B contains 6 questions of 2 marks each

Section C contains 10 questions of 3 marks each

Section D contains 8 questions of 4 marks each

Ques No.	Question
1 - 4381620 *[1 mark]*	Two cylindrical vessels with radii 15 cm and 10 cm and heights 35 cm and 15 cm respectively are filled with water. If this water is poured into a cylindrical vessel 15 cm in height, then the radius of the vessel is (a) 17.5 cm (b) 18 cm (c) 20 cm (d) 25 cm ⊙ Watch Free Video Solution on Doubtnut
2 - 4381750 *[1 mark]*	A hemisphere of lead of radius 6 cm is cast into a right circular cone of height 75 cm. The radius of the base of the cone is (a) 1.4 cm (b) 2 cm (c) 2.4 cm (d) 4.2 cm ⊙ Watch Free Video Solution on Doubtnut
3 - 1448321 *[1 mark]*	If the sum of n terms of an A.P. be $3n^2 - n$ and its common difference is 6, then its first term is 2 b. 3 c. 1 d. 4 ⊙ Watch Free Video Solution on Doubtnut
4 - 1413729 *[1 mark]*	The coordinates of a point on x-axis which lies on the perpendicular bisector of the line segment joining the points $(7,\ 6)$ and $(-3,\ 4)$ are $(0,\ 2)$ (b) $(3,\ 0)$ (c) $(0,\ 3)$ (d) $(2,\ 0)$ ⊙ Watch Free Video Solution on Doubtnut
5 - 93366 *[1 mark]*	Probability of a boy to answer a question is 1/2 and a girl is 1/3 what is the probability that both of them answer correctly ⊙ Watch Free Video Solution on Doubtnut
6 - 25250 *[1 mark]*	Which of the following equations has the sum of its roots as 3? (a) $x^2 + 3x - 5 = 0$ (b) $-x^2 + 3x + 3 = 0$ (c) $\sqrt{2}x^2 - \dfrac{3}{\sqrt{2}}x - 1 = 0$ (d) $3x^2 - 3x - 3 = 0$ ⊙ Watch Free Video Solution on Doubtnut
7 - 3009	Find the HCF of 96 and 404 by the prime factorisation method. Hence, find their LCM.

[2 marks]	▶ Watch Free Video Solution on Doubtnut
8 - 4302 **[2 marks]**	Find the LCM of 12 and 18 ▶ Watch Free Video Solution on Doubtnut
9 - 1409510 **[2 marks]**	Find a cubic polynomial with the sum, sum of the products of its zeros taken two at a time, and product of its zeros as $2, \ -7, \ -14$ respectively. ▶ Watch Free Video Solution on Doubtnut
10 - 1410008 **[2 marks]**	A fraction becomes 9/11 if 2 is added to both numerator and the denominator. If 3 is added to both the numerator and the denominator it becomes 5/6. Find the fraction. ▶ Watch Free Video Solution on Doubtnut
11 - 1410010 **[2 marks]**	If we add 1 to the numerator and subtract 1 from the denominator, a fraction becomes 1. It also becomes 1/2 if we only add 1 to the denominator. What is the fraction? ▶ Watch Free Video Solution on Doubtnut
12 - 3377 **[2 marks]**	Consider $\triangle ACB$, right-angled at C, in which $AB = 29$ units, $BC = 21$ units and $\angle ABC = \theta$. Determine the values of (i) $\cos 2\theta + \sin 2\theta$ (ii) $\cos 2\theta \sin 2\theta$ ▶ Watch Free Video Solution on Doubtnut
13 - 3004 **[3 marks]**	An army contingent of 616 members is to march behind an army band of 32 members in a parade. The two groups are to march in the same number of columns. What is the maximum number of columns in which they can march? ▶ Watch Free Video Solution on Doubtnut
14 - 1409195 **[3 marks]**	Prove that there is no natural number for which 4^n ends with the digit zero. ▶ Watch Free Video Solution on Doubtnut
15 - 1408571 **[3 marks]**	Prove that $\sqrt{3} + \sqrt{5}$ is an irrational number. ▶ Watch Free Video Solution on Doubtnut
16 - 1409532 **[3 marks]**	If two zeros of the polynomial $f(x) = x^4 - 6x^3 - 26x^2 + 138x - 35$ are $2 \pm \sqrt{3}$, find other zeros. ▶ Watch Free Video Solution on Doubtnut
17 - 1409533 **[3 marks]**	On dividing the polynomial $f(x) = x^3 - 3x^2 + x + 2$ by a polynomial $g(x)$, the quotient $q(x)$ and remainder $r(x)$ where $q(x) = x - 2$ and $r(x) = -2x + 4$ respectively. Find the polynomial $g(x)$. ▶ Watch Free Video Solution on Doubtnut
18 - 3334227	Given that $x - \sqrt{5}$ is a factor of the cubic polynomial $x^3 - 3\sqrt{5}x^2 + 13x - 3\sqrt{5},$ find the other zeroes of the polynomial.

[3 marks]	▶ Watch Free Video Solution on Doubtnut
19 - 24927 **[3 marks]**	Solve: $\dfrac{x}{a} + \dfrac{y}{b} = a + b$ $\dfrac{x}{a^2} + \dfrac{y}{b^2} = 2$ ▶ Watch Free Video Solution on Doubtnut
20 - 1409991 **[3 marks]**	The coach of a cricket team buys 7 bats and 6 balls for Rs 3800. Later, he buys 3 bats and 5 balls for Rs 1750. Find the cost of each bat and each ball. ▶ Watch Free Video Solution on Doubtnut
21 - 1409993 **[3 marks]**	A lending library has a fixed charge for the first three days and an additional charge for each day thereafter. Saritha paid Rs 27 for a book kept for seven days, while Susy paid Rs 21 for the book she kept for five days. Find the fixed charge and the charge for each extra day. ▶ Watch Free Video Solution on Doubtnut
22 - 25192 **[3 marks]**	A person can row a boat at the rate of 5 km/hour in still water. He takes thrice as much time in going 40 km upstream as in going 40 km downstream. Find the speed of the stream. ▶ Watch Free Video Solution on Doubtnut
23 - 1409163 **[4 marks]**	Show that $n^2 - 1$ is divisible by 8, if n is an odd positive integer. ▶ Watch Free Video Solution on Doubtnut
24 - 1409164 **[4 marks]**	Show that the square of any positive integer is of the form $3m$ or, $3m + 1$ for some integer m . ▶ Watch Free Video Solution on Doubtnut
25 - 21774 **[4 marks]**	Verify that 3,-1,-1/3 are the zeros of the cubic polynomial $p(x) = 3x^3 - 5x^2 - 11x - 3$. verify the relationship between the zeros and its coefficients. ▶ Watch Free Video Solution on Doubtnut
26 - 1410266 **[4 marks]**	A point O in the interior of a rectangle $ABCD$ is joined with each of the vertices A, B, C and D . Prove that $OB^2 + OD^2 = OC^2 + OA^2$ ▶ Watch Free Video Solution on Doubtnut
27 - 1410267 **[4 marks]**	$ABCD$ is a rhombus. Prove that $AB^2 + BC^2 + CD^2 + DA^2 = AC^2 + BD^2$ ▶ Watch Free Video Solution on Doubtnut
28 - 3365 **[4 marks]**	In triangle ABC, right-angled at B. if $\tan A = \dfrac{1}{\sqrt{3}}$ find the value of: $(i) \quad \sin A \cos C + \cos A \sin C$ $(ii) \quad \cos A \cos C \sin A \sin C$ ▶ Watch Free Video Solution on Doubtnut

29 - 1410188 *[4 marks]*	In Fig. 4.124, E is a point on side CB produced of an isosceles triangle ABC with $AB = AC$. If $AD \perp BC$ and $EF \perp AC$, prove that (i) $ABDECF$ (ii) $AB \times EF = AD \times EC$. (FIGURE) ⊙ Watch Free Video Solution on Doubtnut
30 - 3039 *[4 marks]*	Find a quadratic polynomial, the sum and product of whose zeroes are -3 and 2, respectively. ⊙ Watch Free Video Solution on Doubtnut