

Q.1 find the HCF of 55 and 210. Express it as a linear combination of 55 and 210 i.e HCF of 55 and 210 = $210a + 55b$, for some a and b.

Q.2 If one zero of the polynomial $2x^2 - 5x - (2k+1)$ is twice the other, then find both the zeroes of the polynomial and the value of k.

Q.3 If α and β are zeroes of the quadratic polynomial $p(x) = 6x^2 + x - 1$, then find the value of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha} + 2\left(\frac{1}{\alpha} + \frac{1}{\beta}\right) + 3\alpha \cdot \beta$

Q.4 Solve the system of equations: $\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}$
 $\frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$

Q.5 Solve the pair of linear equation by cross-multiplication method

$$\frac{x}{2} + \frac{2y}{3} = 1 \text{ and } x - \frac{y}{3} = 3$$

Q.6 The sum of first n , $2n$ and $3n$ terms of an AP are S_1 , S_2 and S_3 respectively, prove that $S_3 = 3(S_2 - S_1)$

Q.7 the ratio of the sums of first m and n terms of an AP is $m^2 : n^2$. show that the ratio of the m^{th} and n^{th} terms is $(2m-1) : (2n-1)$

Q.8 find the roots of $x^2 - 4ax + 4a^2 - b^2 = 0$ if they exist by method of completing the square.

Q.9 A two digit number is such that the product of its digit is 35. When 18 is added to the number the digits interchange their places find the number

Q.10 Solve the following equations for x and y

$$7^x + 5^y = 74$$

$$7^{x-1} - 5^{y+1} = 218$$

Q.11 Express $5.4\overline{178}$ in the form p/q

Q.12 Determine algebraically the vertices of the triangle formed by the lines $5x - y = 5$, $6x + y = 17$ and $x + 2y = 1$

Q.13 Show that one and only one out of $n, n+4, n+8, n+12$ and $n+16$ is divisible by 5, where n is any positive integer.

Q.14 Solve the equation

$$-4 + (-1) + 2 + \dots + x = 437$$

PROJECT-WORK To identify arithmetic progressions in some given lists of numbers (patterns) on A-3 size sheet

Note

★ Revise full syllabus done in class.

★ Revise ch 1 to 5 for Test.

★ : Holiday Home work will be checked only on 2nd, 3rd and 4th July'18