

Except for the following questions, all the remaining questions have been asked in [Set I](#).

Q. 1. Express the following as a rational expression in lowest terms:

$$\left[\frac{1}{x^2 - 9x + 20} + \frac{1}{x^2 - 11x + 30} \right] \div \frac{x}{x^2 - 10x + 24}$$

Q. 2. The HCF of two polynomials is $x + 3$ and their LCM is $x^3 - 7x + 6$. If one of the polynomials is $x^2 + 2x - 3$, find the other polynomial.

Q. 3. Find the term of the arithmetic progression 9, 12, 15, 18, ... which is 39 more than its 36th term.

Q. 4. In an AP, the sum of first n terms is $\frac{3n^2}{2} + \frac{13n}{2}$, Find its 25th term.

Q. 11. Solve the following equations graphically:

$$3x + 2y - 11 = 0 \text{ and } 2x - 3y + 10 = 0$$

Shade the region bounded by these lines and the x-axis.

Q. 15. Find the mean of the following frequency distribution:

Classes	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59
Frequency	14	22	16	6	5	3	4

Q. 18. By distance formula, show that the points (1, -1) (5, 2) and (9, 5) are collinear.

Q. 21. If two chords of a circle intersect inside or outside the circle, then the rectangle formed by two parts of one chord is equal in area to the rectangle formed by the two parts of the other. Prove it.

Using the above, solve the following:

AB and CD are two chords of a circle which when produced meet at P. If PA = 12 cm, AB = 2 cm and CD = 7 cm, find the length of PC.