

# Centum Preparation 100 Days plan class 12 Maths

Q. No.	DAY - 5
21	<p><b>EXERCISE 1.3</b></p> <p>4. 4 men and 4 women can finish a piece of work jointly in 3 days while 2 men and 5 women can finish the same work jointly in 4 days. Find the time taken by one man alone and that of one woman alone to finish the same work by using matrix inversion method.</p>
22	<p>5. The prices of three commodities <math>A, B</math> and <math>C</math> are ₹ <math>x, y</math> and <math>z</math> per units respectively. A person <math>P</math> purchases 4 units of <math>B</math> and sells two units of <math>A</math> and 5 units of <math>C</math>. Person <math>Q</math> purchases 2 units of <math>C</math> and sells 3 units of <math>A</math> and one unit of <math>B</math>. Person <math>R</math> purchases one unit of <math>A</math> and sells 3 unit of <math>B</math> and one unit of <math>C</math>. In the process, <math>P, Q</math> and <math>R</math> earn ₹ 15,000, ₹ 1,000 and ₹ 4,000 respectively. Find the prices per unit of <math>A, B</math> and <math>C</math>. (Use matrix inversion method to solve the problem.)</p>
23	<p><b>Example 1.26</b></p> <p>In a T20 match, Chennai Super Kings needed just 6 runs to win with 1 ball left to go in the last over. The last ball was bowled and the batsman at the crease hit it high up. The ball traversed along a path in a vertical plane and the equation of the path is <math>y = ax^2 + bx + c</math> with respect to a <math>xy</math>-coordinate system in the vertical plane and the ball traversed through the points <math>(10, 8), (20, 16), (40, 22)</math>, can you conclude that Chennai Super Kings won the match? Justify your answer. (All distances are measured in metres and the meeting point of the plane of the path with the farthest boundary line is <math>(70, 0)</math>.)</p>
24	<p><b>EXERCISE 1.4</b></p> <p>1. Solve the following systems of linear equations by Cramer's rule:</p> <p>(iv) <math>\frac{3}{x} - \frac{4}{y} - \frac{2}{z} - 1 = 0, \frac{1}{x} + \frac{2}{y} + \frac{1}{z} - 2 = 0, \frac{2}{x} - \frac{5}{y} - \frac{4}{z} + 1 = 0</math></p>

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2. In a competitive examination, one mark is awarded for every correct answer while  $\frac{1}{4}$  mark is deducted for every wrong answer. A student answered 100 questions and got 80 marks. How many questions did he answer correctly ? (Use Cramer's rule to solve the problem).