MM 30 cbse.biz Time 1 h 15 min

Chapters

Real Numbers, Polynomials, Linear equations in two variables and quadratic eqn.

1. Prove that $2\sqrt{2} - 3$ is an irrational number. 3

2. Use Euclid's Division lemma to show that the square of any positive integer is either of the form 3m or 3m+1 for some integer m. 2

3. Form polynomials with zeros $-\frac{\sqrt{3}}{5}, \frac{\sqrt{3}}{5}$. How many such polynomials are possible? 3

4. Find all the integral zeros of $x^3 - 3x^2 - 2x + 6$ 3

5. Solve the system of equations: $x - 4y + 14 = 0$ and $3x + 2y - 14 = 0$ graphically. Shade the area bounded by these lines and the axes. Name the figure so formed 3

6. Find the value of a and b so that the following system of linear equations has an infinite number of solutions: $2x - 3y = 7$, $(a + b)x - (a + b - 3)y = 4a + b$ 3

7. Anubhav travels 600 km to his home partly by train and partly by car. He takes 8 hours, if he travels 120 km by train and the remaining distance by car. If he travels 200 km by train and the remaining distance by car, he takes 20 minutes longer. Find the speed of the train and the car separately. 5

8. Solve the following equations: $\frac{5x+6y-7}{2} = \frac{2x+5y+3}{3} = \frac{8-4x+3y}{2}$ 3

9. A plane left 30min. later than the scheduled time and in order to reach its destination 1500 km away in time it has to increase its speed by 250 km/h from its usual speed .Find its usual speed. 5

MM 30 cbse.biz Time 1 h 15 min