

MM 35	cbsemath.com	1 h 10 min
Quadratic Equations		
1. Examine if $5x^2 + 3x = 0$ is a quadratic equation? Give reasons		3
2. Determine r for real roots $5x^2 + rx^2 + 3 = 0$		3
3. Solve for x $\frac{1}{x+a+b} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x}$		3
4. Determine r for real roots $rx^2 + 5x + r = 0$		3
5. Solve for x by factorisation $\sqrt{3}x^2 + 10x + 7\sqrt{3} = 0$		3
6. Solve for x by factorisation $\frac{x}{x+1} + \frac{x+1}{x} = \frac{34}{15}$ given $x \neq 0, -1$		3
7. Solve for x by factorisation $4x^2 - 4ax + a^2 - b^2 = 0$		3
8. A shopkeeper buys a number of books for Rs 80. If he had bought 4 more books for the same amount each book would have cost Re1less. How many books did he buy?		4
9. Two pipes running together can fill a cistern in $3\frac{1}{3}$ minutes. If one pipe takes 3 minutes more than other to fill it, find the time in which each pipe would fill the cistern.		6
10. A can do a piece of work in x days and B can do it in x + 6 days. If both working together can do it in 4 days, calculate x.		4

Answers for cbsemath.com free paper quadratic equations

1. Yes, degree 2
2. $r \geq 2\sqrt{15}, r \leq -2\sqrt{15}$
3. $x = -p, -q$

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4. $\frac{-5}{2} < r < \frac{5}{2}$

5. $x = -\sqrt{3}, \frac{-7\sqrt{3}}{3}$

6. $x = \frac{-5}{2}, \frac{3}{2}$

7. $\frac{a+b}{2}, \frac{a-b}{2}$

8. Number of books = 16, Hint $\frac{80}{x} - \frac{80}{x+4} = 2$

9. 5 minutes, 8 minutes.

10. $x = 6$

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