



Subject: Numerical method
and Algebra

Chapter: Unit 3

Category: Practice questions

1. Solve the following quadratic equations using factorization method:

- a) $2x^2 - 5x + 3 = 0$
- b) $(x^2 - 3x)(x^2 - 3x - 1) - 20$
- c) $: 4\sqrt{3}x^2 + 5x - 2\sqrt{3}$

2. Solve the following equation using quadratic formula:

- a) $x^2 + 6x - 8 = 0$
- b) $3x^2 + 6x + 2 = 0$

3. Solve the following quadratic equations using completing square method:

- a) $x^2 - 4x - 8 = 0$.
- b) $4x^2 + x = 3$

4. Solve the following inequalities:

a) $\frac{x-4}{6} - \frac{x-2}{9} \leq \frac{5}{18}$.

b) $-2 < \frac{3x+2}{2} < 7$.

5. Solve the following

- a) $|2x + 1| < 5$
- b) $|4x - 3| > 9$.

c) $\frac{|x+3| + x}{x+2} > 1$

6. The hypotenuse of right-angled triangle is 2 more than twice of one of the other side while the third side is 13 more than half of the hypotenuse. Find the length of the median to the hypotenuse.

7. Difference between a number and its positive square root is 12. Find the number.
8. A classroom can fit at least 9 tables with an area of a one-meter square. We know that the perimeter of the classroom is 12m. Find the bounds on the length and breadth of the classroom.
9. Brenda has \$500 in her bank account. Every week, she withdraws \$40 for expenses. Without making any deposits, how many weeks can she withdraw this money if she wants to maintain a balance of at least \$200?



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