



Attempt questions first; check the separate key afterward. Show all working. Draw accurate figures where required.

A. Very short answers - 1 mark each

1. Solve $x+7=19$.
2. Solve $5x=45$.
3. Solve $3x-4=17$.
4. Solve $2x+5=19$.
5. Solve $x/4+3=8$.
6. Solve $(x-3)/5=4$.
7. Solve $5x-7=3x+9$.
8. Solve $7-2x=15$.

B. Short answers / practice - 2 marks each

9. Solve $3(x+2)=24$.
10. Solve $2(x-5)=3(x-8)$.
11. Translate: five more than twice a number is 29. Solve.
12. Translate: one-third of a number is 7 less than it. Solve.
13. Three consecutive integers sum to 72. Find them.
14. Three consecutive even integers sum to 54. Find them.
15. A rectangle has perimeter 50 cm; length exceeds width by 5 cm. Find dimensions.
16. Find its area.
17. A mother's age is three times her son's; their total age is 48. Find ages.
18. After how many years will she be twice his age?
19. Solve $x/2+x/3=10$.
20. Solve $(2x-1)/3=5$.

C. Application / reasoning - 3 marks each

21. A number increased by 20% becomes 72. Find it.

22. A number decreased by 15% becomes 51. Find it.

23. Explain why adding the same value to both sides preserves equality.

24. Explain why multiplying both sides by zero loses information.

25. Solve $0.4x+1.2=4.8$.

26. Solve $3(2x-1)-2(x+4)=9$.

27. Solve $4(2x-3)=3x+13$.

28. Solve $(x+2)/3+(x-1)/2=6$.

29. The sum of two numbers is 84; one is five times the other. Find them.

30. A square and a 14 cm by 10 cm rectangle have equal perimeters. Find the square's area.

31. A number is doubled, increased by 9 and then divided by 3 to give 11. Find it.

D. Extended practice - 5 marks per pair

32. A two-digit number has digit sum 9 and tens digit one more than units. Find it.
33. The sum of a number and its half is 45. Find it.
34. Tickets cost ₹40 for children and ₹70 for adults. Ten tickets cost ₹520. Find numbers of each.
35. Write and solve an equation for a number whose triple minus 8 equals its double plus 13.

ANSWER KEY - Numerical / closed questions

- 1) 12. 2) 9. 3) 7. 4) 7. 5) 20. 6) 23. 7) 8. 8) -4. 9) 6. 10) 14. 11) $x=12$. 12) $x=10.5$. 13) 23, 24, 25. 14) 16, 18, 20. 15) 15 cm, 10 cm. 16) 150 cm². 17) 36, 12 years. 18) 12 years. 19) 12. 20) 8. 21) 60. 22) 60. 23) 9. 24) 5. 25) $x=5$. 26) $x=7$. 27) 14, 70. 28) 144 cm². 29) 12. 30) 30. 31) 6 children, 4 adults. 32) $x=21$.