LINEAR EQUATIONS WITH UNKNOWNS ON BOTH SIDES

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1. $2x + 3 = 7$

2. $5x - 4 = 11$

3. $3x + 1 = 2x + 5$

4. $4x - 2 = 3x + 3$

5. $6x + 2 = 4x + 8$

6. $5x - 3 = 2x + 9$

7. $7x + 4 = 3x + 16$

8. $8x - 5 = 4x + 7$

9. $9x + 6 = 5x + 18$

10. $10x - 7 = 6x + 9$

11. $11x + 8 = 7x + 20$

12. $12x - 9 = 8x + 11$

13. $13x + 10 = 9x + 22$

14. $14x - 11 = 10x + 13$

15. $15x + 12 = 11x + 24$

16. $16x - 13 = 12x + 15$

17. $17x + 14 = 13x + 26$

18. $18x - 15 = 14x + 17$

19. $19x + 16 = 15x + 28$

20. $20x - 17 = 16x + 19$

21. $21x + 18 = 17x + 30$

22. $22x - 19 = 18x + 21$

23. $23x + 20 = 19x + 32$

24. $24x - 21 = 20x + 23$

25. $25x + 22 = 21x + 34$

26. $26x - 23 = 22x + 25$

27. $27x + 24 = 23x + 36$

28. $28x - 25 = 24x + 27$

29. $29x + 26 = 25x + 38$ **30.** $30x - 27 = 26x + 29$

MASTER QUESTIONS

M1. A rectangle's length is 3cm more than its width. If the perimeter is 26cm, find the dimensions.

M2. Tom has twice as many marbles as Sam. If Tom gives 5 marbles to Sam, they will have equal amounts. How many marbles does each have?

M3. A number multiplied by 4 and increased by 6 equals the same number multiplied by 3 and increased by 12. Find the number.

M4. The sum of three consecutive even numbers is 54. Find the numbers.

M5. A father is three times as old as his son. In 5 years, he will be twice as old. Find their current ages.

M6. A shop sells pens for £2 each and pencils for £1 each. Sarah buys 10 items and spends £16. How many pens did she buy?

M7. The difference between two numbers is 8. If three times the smaller number equals twice the larger number, find the numbers.

M8. A train travels at a constant speed. It covers 120km in 2 hours. How long will it take to cover 300km at the same speed?

M9. A recipe requires 500g of flour for 20 biscuits. How much flour is needed for 35 biscuits?

M10. The sum of two numbers is 45. One number is 9 more than the other. Find the numbers.