

LINEAR EQUATIONS WITH UNKNOWNNS

ON BOTH SIDES

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

MAIN QUESTIONS

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|-----|-----------------------|--|---------|-----|-----------------------|--|----------|
| 1. | $2x + 3 = 7$ | | $x = 2$ | 2. | $5x - 4 = 11$ | | $x = 3$ |
| 3. | $3x + 1 = 2x + 5$ | | $x = 4$ | 4. | $4x - 2 = 3x + 3$ | | $x = 5$ |
| 5. | $6x + 2 = 4x + 8$ | | $x = 3$ | 6. | $5x - 3 = 2x + 9$ | | $x = 4$ |
| 7. | $7x + 4 = 3x + 16$ | | $x = 3$ | 8. | $8x - 5 = 4x + 7$ | | $x = 3$ |
| 9. | $9x + 6 = 5x + 18$ | | $x = 3$ | 10. | $10x - 7 = 6x + 9$ | | $x = 4$ |
| 11. | $11x + 8 = 7x + 20$ | | $x = 3$ | 12. | $12x - 9 = 8x + 11$ | | $x = 5$ |
| 13. | $13x + 10 = 9x + 22$ | | $x = 3$ | 14. | $14x - 11 = 10x + 13$ | | $x = 6$ |
| 15. | $15x + 12 = 11x + 24$ | | $x = 3$ | 16. | $16x - 13 = 12x + 15$ | | $x = 7$ |
| 17. | $17x + 14 = 13x + 26$ | | $x = 3$ | 18. | $18x - 15 = 14x + 17$ | | $x = 8$ |
| 19. | $19x + 16 = 15x + 28$ | | $x = 3$ | 20. | $20x - 17 = 16x + 19$ | | $x = 9$ |
| 21. | $21x + 18 = 17x + 30$ | | $x = 3$ | 22. | $22x - 19 = 18x + 21$ | | $x = 10$ |
| 23. | $23x + 20 = 19x + 32$ | | $x = 3$ | 24. | $24x - 21 = 20x + 23$ | | $x = 11$ |

25. $25x + 22 = 21x + 34$ | $x = 3$ 26. $26x - 23 = 22x + 25$ | $x = 12$
27. $27x + 24 = 23x + 36$ | $x = 3$ 28. $28x - 25 = 24x + 27$ | $x = 13$
29. $29x + 26 = 25x + 38$ | $x = 3$ 30. $30x - 27 = 26x + 29$ | $x = 14$

MASTER QUESTIONS



- M1. A rectangle's length is 3cm more than its width. If the perimeter is 26cm, find the dimensions. | The rectangle is 8cm by 5cm
- 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? | Tom has 20 marbles and Sam has 10 marbles
- M3. A number multiplied by 4 and increased by 6 equals the same number multiplied by 3 and increased by 12. Find the number. | The number is 6
- M4. The sum of three consecutive even numbers is 54. Find the numbers. | The numbers are 16, 18 and 20
- M5. A father is three times as old as his son. In 5 years, he will be twice as old. Find their current ages. | The father is 45 years old and the son is 15 years old

- 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? | Sarah bought 6 pens
- M7.** The difference between two numbers is 8. If three times the smaller number equals twice the larger number, find the numbers. | The numbers are 16 and 24
- 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? | It will take 5 hours
- M9.** A recipe requires 500g of flour for 20 biscuits. How much flour is needed for 35 biscuits? | 875g of flour is needed
- M10.** The sum of two numbers is 45. One number is 9 more than the other. Find the numbers. | The numbers are 18 and 27