

SUBSTITUTION IN ALGEBRA

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

MAIN QUESTIONS

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| 1. $2x + 3 = 11$ | 2. $5y - 2 = 13$ |
| 3. $4a + 7 = 23$ | 4. $6b - 5 = 19$ |
| 5. $3c + 8 = 26$ | 6. $7d - 4 = 24$ |
| 7. $2e + 9 = 21$ | 8. $8f - 3 = 37$ |
| 9. $5g + 6 = 31$ | 10. $9h - 7 = 20$ |
| 11. $4x + 3x = 28$ | 12. $6y - 2y = 16$ |
| 13. $5a + 2a - 3 = 18$ | 14. $7b - 3b + 4 = 20$ |
| 15. $3c + 4c - 5 = 16$ | 16. $8d - 2d + 3 = 27$ |
| 17. $2x + 3x + 4 = 29$ | 18. $5y - y + 6 = 22$ |
| 19. $4a + 2a - 3a = 15$ | 20. $7b + b - 2b = 24$ |
| 21. $3x + 2y = 13$ where $x = 3$ | 22. $4a - b = 11$ where $a = 4$ |
| 23. $2x + 3y = 16$ where $y = 4$ | 24. $5p - 2q = 13$ where $p = 3$ |
| 25. $3m + 4n = 23$ where $m = 5$ | 26. $6x - 3y = 15$ where $y = 3$ |
| 27. $2a + 5b = 27$ where $a = 6$ | 28. $7c - 2d = 19$ where $c = 3$ |
| 29. $4x + 3y = 26$ where $x = 5$ | 30. $8p - 3q = 29$ where $p = 4$ |

MASTER QUESTIONS



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- M1.** A rectangle has a length that is 3cm more than its width. If the perimeter is 26cm, find the dimensions.
- M2.** The sum of two numbers is 15 and their difference is 3. Find the numbers.
- M3.** A book costs £5 more than a pen. If 2 books and 3 pens cost £31, find the cost of each.
- M4.** The sum of three consecutive numbers is 24. 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.** If 5 apples and 3 oranges cost £4.10, and 2 apples and 4 oranges cost £2.80, find the cost of each fruit.
- M7.** The area of a rectangle is 48cm^2 and its length is 8cm more than its width. Find the dimensions.
- M8.** A number is doubled and then increased by 5. The result is 21. Find the number.
- M9.** The sum of two numbers is 20. One number is 4 more than the other. Find the numbers.
- M10.** A train travels at a constant speed. If it covers 120 miles in 3 hours, how far will it travel in 5 hours?