

# Factorising Quadratics

Factorise the following (not forgetting the three stage process: first 'numbers', then 'letters' and only then 'two brackets').

- |                            |                       |
|----------------------------|-----------------------|
| 1. $x^2 + 5x + 4$ .        | $(x + 1)(x + 4)$      |
| 2. $x^2 + 5x + 6$ .        | $(x + 3)(x + 2)$      |
| 3. $x^2 + 4x - 5$ .        | $(x - 1)(x + 5)$      |
| 4. $x^2 - 5x - 14$ .       | $(x - 7)(x + 2)$      |
| 5. $x^2 - 10x + 16$ .      | $(x - 8)(x - 2)$      |
| 6. $x^2 - 12x + 27$ .      | $(x - 9)(x - 3)$      |
| 7. $x^2 + 2x + 1$ .        | $(x + 1)^2$           |
| 8. $x^2 - x - 6$ .         | $(x - 3)(x + 2)$      |
| 9. $x^2 - 9$ .             | $(x - 3)(x + 3)$      |
| 10. $x^2 + 4x$ .           | $x(x + 4)$            |
| 11. $3x^2 + 24x + 36$ .    | $3(x + 6)(x + 2)$     |
| 12. $2x^2 + 14x - 36$ .    | $2(x - 2)(x + 9)$     |
| 13. $5x^2 - 35x$ .         | $5x(x - 7)$           |
| 14. $7x^3 + 21x^2 + 14x$ . | $7x(x + 1)(x + 2)$    |
| 15. $10x^4 - 90x^2$ .      | $10x^2(x - 3)(x + 3)$ |
| 16. $2x^2 + 3x + 1$ .      | $(2x + 1)(x + 1)$     |
| 17. $3x^2 + 7x + 2$ .      | $(3x + 1)(x + 2)$     |
| 18. $3x^3 - 15x^2$ .       | $3x^2(x - 5)$         |
| 19. $5x^2 - 3x - 2$ .      | $(5x + 2)(x - 1)$     |
| 20. $4x^2 + 12x + 9$ .     | $(2x + 3)^2$          |
| 21. $4x^2 + 8x + 3$ .      | $(2x + 3)(2x + 1)$    |
| 22. $6x^2 + 23x + 7$ .     | $(2x + 7)(3x + 1)$    |
| 23. $6x^2 + 15x - 9$ .     | $3(2x - 1)(x + 3)$    |
| 24. $20x^2 - 5$ .          | $5(2x - 1)(2x + 1)$   |
| 25. $42x^2 + 77x - 70$ .   | $7(3x - 2)(2x + 5)$   |
| 26. $8x^3 + 4x^2 - 24x$ .  | $4x(x + 2)(2x - 3)$   |