

# Factorising Quadratic Expressions (B)



## ANSWERS

*Factorise the following quadratic expressions.*

### Section A

- |                                       |                                      |                                       |
|---------------------------------------|--------------------------------------|---------------------------------------|
| 1) $x^2 + 7x - 30$ $(x - 3)(x + 10)$  | 5) $x^2 - 11x + 28$ $(x - 7)(x - 4)$ | 9) $x^2 + 3x - 108$ $(x - 9)(x + 12)$ |
| 2) $x^2 + 9x + 20$ $(x + 4)(x + 5)$   | 6) $x^2 + 6x - 72$ $(x - 6)(x + 12)$ | 10) $x^2 - 17x + 72$ $(x - 9)(x - 8)$ |
| 3) $x^2 + 8x - 9$ $(x - 1)(x + 9)$    | 7) $x^2 - 9x - 22$ $(x - 11)(x + 2)$ | 11) $x^2 - x - 42$ $(x - 7)(x + 6)$   |
| 4) $x^2 - 18x + 80$ $(x - 10)(x - 8)$ | 8) $x^2 - x - 12$ $(x - 4)(x + 3)$   | 12) $x^2 - 15x + 56$ $(x - 7)(x - 8)$ |

### Section B

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|--------------------------------------|---|--|
| 1) $2x^2 + 3x + 1$ $(2x + 1)(x + 1)$ | 6) $2x^2 + 5x + 3$ $(2x + 3)(x + 1)$    | 11) $2x^2 + 12x + 18$ $(2x + 6)(x + 3)$  |
| 2) $2x^2 + 5x + 2$ $(2x + 1)(x + 2)$ | 7) $2x^2 + 8x + 6$ $(2x + 2)(x + 3)$    | 12) $2x^2 + 14x + 20$ $(2x + 4)(x + 5)$  |
| 3) $2x^2 + 7x + 3$ $(2x + 1)(x + 3)$ | 8) $2x^2 + 9x + 10$ $(2x + 5)(x + 2)$   | 13) $2x^2 + 22x + 36$ $(2x + 4)(x + 9)$  |
| 4) $2x^2 + 7x + 5$ $(2x + 5)(x + 1)$ | 9) $2x^2 + 16x + 14$ $(2x + 2)(x + 7)$  | 14) $2x^2 + 28x + 48$ $(2x + 4)(x + 12)$ |
| 5) $2x^2 + 9x + 7$ $(2x + 7)(x + 1)$ | 10) $2x^2 + 16x + 24$ $(2x + 4)(x + 6)$ | 15) $2x^2 + 26x + 72$ $(2x + 8)(x + 9)$  |

### Section C

- |  |   |  |
|--|---|--|
| 1) $2x^2 + x - 1$ $(2x - 1)(x + 1)$    | 6) $3x^2 - 14x - 5$ $(3x + 1)(x - 5)$   | 11) $3x^2 - 2x - 21$ $(3x + 7)(x - 3)$   |
| 2) $2x^2 + x - 3$ $(2x + 3)(x - 1)$    | 7) $3x^2 - 8x - 11$ $(3x - 11)(x + 1)$  | 12) $2x^2 + 2x - 12$ $(2x - 4)(x + 3)$   |
| 3) $2x^2 + 9x - 5$ $(2x - 1)(x + 5)$   | 8) $2x^2 - 14x + 12$ $(2x - 2)(x - 6)$  | 13) $2x^2 - 11x + 15$ $(2x - 5)(x - 3)$  |
| 4) $2x^2 - 3x - 2$ $(2x + 1)(x - 2)$   | 9) $3x^2 - 21x + 36$ $(3x - 12)(x - 3)$ | 14) $3x^2 - 34x - 24$ $(3x + 2)(x - 12)$ |
| 5) $2x^2 - 13x - 24$ $(2x + 3)(x - 8)$ | 10) $5x^2 - 41x + 8$ $(5x - 1)(x - 8)$  | 15) $5x^2 - 27x + 10$ $(5x - 2)(x - 5)$  |

### Section D

- |   |  |   |
|---|--|---|
| 1) $4x^2 + 12x + 8$ $(2x + 4)(2x + 2)$  | 8) $6x^2 - 5x - 4$ $(3x - 4)(2x + 1)$      | 15) $48x^2 + 72x + 24$ $(6x + 6)(8x + 4)$ |
| 2) $6x^2 + 23x + 20$ $(2x + 5)(3x + 4)$ | 9) $6x^2 - 16x + 15$ $(3x - 5)(2x - 3)$    | 16) $18x^2 + 51x + 8$ $(6x + 1)(3x + 8)$  |
| 3) $6x^2 + 24x + 18$ $(3x + 9)(2x + 2)$ | 10) $8x^2 + 16x - 24$ $(4x + 12)(2x - 2)$  | 17) $20x^2 + 27x + 9$ $(4x + 3)(5x + 3)$  |
| 4) $4x^2 + 31x + 21$ $(4x + 3)(x + 7)$  | 11) $7x^2 + 52x - 32$ $(7x - 4)(x + 8)$    | 18) $30x^2 - 32x + 8$ $(5x - 2)(6x - 4)$  |
| 5) $4x^2 + 22x + 18$ $(2x + 2)(2x + 9)$ | 12) $6x^2 - 55x + 56$ $(6x - 7)(x - 8)$    | 19) $36x^2 + 42x - 8$ $(6x - 1)(6x + 8)$  |
| 6) $8x^2 - 22x + 15$ $(4x + 5)(2x + 3)$ | 13) $9x^2 + 36x + 35$ $(3x + 7)(3x + 5)$   | 20) $24x^2 - 50x - 14$ $(3x - 7)(8x + 2)$ |
| 7) $8x^2 + 36x + 16$ $(8x + 4)(x + 4)$  | 14) $12x^2 - 42x + 30$ $(4x - 10)(3x - 3)$ | 21) $-2x^2 + x + 21$ $(7 - 2x)(x + 3)$    |