

# Factorising Quadratic Expressions

## - Answers

### Exercise A

$$\textcircled{1} \quad x^2 + 7x + 10 = (x+5)(x+2)$$

$$\textcircled{2} \quad x^2 + 7x + 12 = (x+4)(x+3)$$

$$\textcircled{3} \quad x^2 + 8x + 15 = (x+3)(x+5)$$

$$\textcircled{4} \quad x^2 + 10x + 21 = (x+7)(x+3)$$

$$\textcircled{5} \quad x^2 + 8x + 12 = (x+6)(x+2)$$

$$\textcircled{6} \quad y^2 + 12y + 35 = (y+7)(y+5)$$

$$\textcircled{7} \quad y^2 + 11y + 24 = (y+8)(y+3)$$

$$\textcircled{8} \quad y^2 + 10y + 25 = (y+5)^2$$

$$\textcircled{9} \quad y^2 + 15y + 36 = (y+12)(y+3)$$

$$\textcircled{10} \quad a^2 - 3a - 10 = (a-5)(a+2)$$

$$\textcircled{11} \quad a^2 - a - 12 = (a-4)(a+3)$$

$$\textcircled{12} \quad z^2 + z - 6 = (z+3)(z-2)$$

$$\textcircled{13} \quad x^2 - 2x - 35 = (x-7)(x+5)$$

$$\textcircled{14} \quad x^2 - 5x - 24 = (x-8)(x+3)$$

$$\textcircled{15} \quad x^2 - 6x + 8 = (x-4)(x-2)$$

$$\textcircled{16} \quad y^2 - 5y + 6 = (y-3)(y-2)$$

$$\textcircled{17} \quad x^2 - 8x + 15 = (x-5)(x-3)$$

$$\textcircled{18} \quad a^2 - a - 6 = (a-3)(a+2)$$

$$\textcircled{19} \quad a^2 + 14a + 45 = (a+9)(a+5)$$

$$\textcircled{20} \quad b^2 - 4b - 21 = (b-7)(b+3)$$

$$\textcircled{21} \quad x^2 - 8x + 16 = (x-4)(x-4)$$

$$\textcircled{22} \quad y^2 + 2y + 1 = (y+1)(y+1)$$

$$\textcircled{23} \quad y^2 - 3y - 28 = (y-7)(y+4)$$

$$(24) \quad x^2 - x - 20 = (x-5)(x+4)$$

$$(25) \quad x^2 - 8x - 240 = (x-20)(x+12)$$

$$(26) \quad x^2 - 26x + 165 = (x-15)(x-11)$$

$$(27) \quad y^2 + 3y - 108 = (y+12)(y-9)$$

$$(28) \quad x^2 - 49 = (x-7)(x+7)$$

$$(29) \quad x^2 - 9 = (x-3)(x+3)$$

$$(30) \quad x^2 - 16 = (x-4)(x+4)$$

$$(31) \quad 2x^2 + 12x + 16 = 2[x^2 + 6x + 8] \\ = 2[(x+4)(x+2)] \\ = 2(x+4)(x+2)$$

(32)

$$(a) \quad 2x^2 + 4x - 30 = 2[x^2 + 2x - 15] \\ = 2[(x+5)(x-3)] \\ = 2(x+5)(x-3)$$

$$(b) \quad 3x^2 + 21x + 30 = 3[x^2 + 7x + 10] \\ = 3(x+5)(x+2)$$

$$(c) \quad 3x^2 + 24x + 45 = 3(x^2 + 8x + 15) \\ = 3(x+5)(x+3)$$

$$(d) \quad 2n^2 - 6n - 20 = 2(n^2 - 3n - 10) \\ = 2(n-5)(n+2)$$

$$(e) \quad 5a^2 + 5a - 30 = 5(a^2 + a - 6) \\ = 5(a+3)(a-2)$$

$$(f) \quad 4x^2 - 64 = 4(x^2 - 16) \\ = 4(x-4)(x+4)$$