

p119: 22

$$a) x^2 + 4x + 4 = (x+2)^2$$

↓ ↑ ↓
(x)² → 2 · x · 2 ← (2)²

$$b) x^2 - 10x + 25 = (x-5)^2$$

↓ ↑ ↓
(x)² 2 · x · 5 (5)²

$$c) x^2 + 9 + 6x = (x+3)^2$$

↓ ↓ ↑
(x)² (3)² 2 · 3 · x

$$d) x^2 + 49 - 14x = (x-7)^2$$

$$e) 4x^2 + 4x + 1 = (2x+1)^2$$

$$f) 4x^2 + 9 - 12x = (2x-3)^2$$

p119: 23

$$a) 9x^2 - 25 = (3x+5)(3x-5)$$

↓ ↓
(3x)² (5)²

$$b) 1 - x^2 = (1+x)(1-x)$$

$$c) 4x^2 - 9 = (2x+3)(2x-3)$$

$$d) 16x^2 - 1 = (4x+1)(4x-1)$$

$$e) x^4 - 16 = (x^2+4)(x^2-4)$$

$$f) 49 - 4x^2 = (7+2x)(7-2x)$$

p119:24

$$a) 49x^2 - 16 = (7x + 4)(7x - 4)$$

$$b) 36x^2 - 1 = (6x + 1)(6x - 1)$$

$$c) x^2 - 18x + 81 = (x - 9)^2$$

$$d) 121 - 100x^2 = (11 + 10x)(11 - 10x)$$

$$e) 9x^2 + 12x + 4 = (3x + 2)^2$$

$$f) 9x^2 - 24x + 16 = (3x - 4)^2$$

$$g) 25 - 100y^2 = (5 + 10y)(5 - 10y)$$

$$h) 4x^2 + 16x + 16 = (2x + 4)^2$$