

tip: $P(ax + b)(cx + d)$

$$\begin{aligned} &= P\{acx^2 + (ad + bc)x + bd\} \\ &= Pacx^2 + P(ad + bc)x + Pbd \end{aligned}$$

(1) $4(5x - 4)$

$$= 20x - 16$$

(2) $-2(3x + 10)$

$$= -6x - 20$$

(3) $16(2x + 1)$

$$= 32x + 16$$

(4) $2(3x + 4)(x - 4)$

$$= 2(3x^2 - 8x - 16)$$

$$= 6x^2 - 16x - 32$$

(5) $(3x + 2)(4x - 3)$

$$= 12x^2 - x - 6$$

(6) $-3(x + 2)(x + 9)$

$$= -3(x^2 + 11x + 18)$$

$$= -3x^2 - 33x - 54$$

(7) $2(2x + 3)(5x + 7)$

$$= 2(10x^2 + 29x + 21)$$

$$= 20x^2 + 58x + 42$$

(8) $-(2x + 1)(3x + 8)$

$$= -(6x^2 + 19x + 8)$$

$$= -6x^2 - 19x - 8$$

(9) $(2x + 5)(2x - 9)$

$$= 4x^2 - 8x - 45$$

(10) $3(x - 7)(x - 1)$

$$= 3(x^2 - 8x + 7)$$

$$= 3x^2 - 24x + 21$$

(11) $-(4x - 9)(4x - 3)$

$$= -(16x^2 - 48x + 27)$$

$$= -16x^2 + 48x - 27$$

(12) $4(x - 1)(x - 4)$

$$= 4(x^2 - 5x + 4)$$

$$= 4x^2 - 20x + 16$$

(13) $(x - 7)(4x + 3)$

$$= 4x^2 - 25x - 21$$

(14) $(x - 5)(5x - 8)$

$$= 5x^2 - 33x + 40$$

(15) $-(3x + 8)(x - 1)$

$$= -(3x^2 + 5x - 8)$$

$$= -3x^2 - 5x + 8$$

(16) $(3x - 2)(2x + 9)$

$$= 6x^2 + 23x - 18$$

(17) $8(x - 3)(x + 2)$

$$= 8(x^2 - x - 6)$$

$$= 8x^2 - 8x - 48$$

(18) $-3(x - 2)(2x + 1)$

$$= -3(2x^2 - 3x - 2)$$

$$= -6x^2 + 9x + 6$$

(19) $9(2x - 3)$

$$= 18x - 27$$

(20) $2(2x + 1)(3x - 2)$

$$= 2(6x^2 - x - 2)$$

$$= 12x^2 - 2x - 4$$

(21) $-(x - 6)(3x + 2)$

$$= -(3x^2 - 16x - 12)$$

$$= -3x^2 + 16x + 12$$

(22) $2(x + 4)(x - 2)$

$$= 2(x^2 + 2x - 8)$$

$$= 2x^2 + 4x - 16$$

(23) $4(x + 1)(x - 4)$

$$= 4(x^2 - 3x - 4)$$

$$= 4x^2 - 12x - 16$$

(24) $6(2x + 9)$

$$= 12x + 54$$

(25) $(x - 9)(x + 7)$

$$= x^2 - 2x - 63$$