

6.2

$$1) \quad 40r^3 - 8r^2 - 25r + 5 \\ 8r^2(5r - 1) - 5(5r - 1) \\ (5r - 1)(8r^2 - 5)$$

$$3) \quad 3n^2 - 2n^2 - 9n + 6 \\ n^2(3n - 2) - 3(3n - 2) \\ (3n - 2)(n^2 - 3)$$

$$5) \quad 15b^3 + 21b^2 - 35b - 49 \\ 3b^2(5b + 7) - 7(5b + 7) \\ (5b + 7)(3b^2 - 7)$$

$$7) \quad 3x^3 + 15x^2 + 2x + 10 \\ 3x^2(x + 5) + 2(x + 5) \\ (x + 5)(3x^2 + 2)$$

$$9) \quad 35x^3 - 28x^2 - 20x + 16 \\ 7x^2(5x - 4) - 4(5x - 4) \\ (5x - 4)(7x^2 - 4)$$

$$11) \quad 7xy - 49x + 5y - 35 \\ 7x(y - 7) + 5(y - 7) \\ (y - 7)(7x + 5)$$

$$13) \quad 32xy + 40x^2 + 12y + 15x \\ 8x(4y + 5x) + 3(4y + 5x) \\ (4y + 5x)(8x + 3)$$

$$15) \quad 16xy - 56x + 2y - 7 \\ 8x(2y - 7) + 1(2y - 7) \\ (2y - 7)(8x + 1)$$

$$17) \quad 2xy - 8x^2 + 7y^3 - 28y^2x \\ 2x(y - 4x) + 7y^2(y - 4x) \\ (y - 4x)(2x + 7y^2)$$

$$19) \quad 40xy + 35x - 8y^2 - 7y \\ 5x(8y + 7) - y(8y + 7) \\ (8y + 7)(5x - y)$$

$$21) \quad 32uv - 20u + 24v - 15 \\ 4u(8v - 5) + 3(8v - 5) \\ (8v - 5)(4u + 3)$$

$$23) \quad 10xy + 30 + 25x + 12y \\ 10(xy + 3) + 1(25x + 12y) \\ \text{No!} \\ 10xy + 25x + 12y + 30 \\ 5x(2y + 5) + 6(2y + 5) \\ (2y + 5)(5x + 6)$$

$$25) \quad 3uv + 14u - 6u^2 - 7v \\ u(3v + 14) - 1(6u^2 + 7v) \\ \text{No!} \\ 3uv - 6u^2 - 7v + 14u \\ 3u(v - 2u) - 7(v - 2u) \\ (v - 2u)(3u - 7)$$

$$27) \quad 16xy - 3x - 6x^2 + 8y \\ x(16y - 3) - 1(6x^2 - 8y) \\ \text{No!} \\ 16xy - 6x^2 + 8y - 3x \\ 2x(8y - 3x) + 1(8y - 3x) \\ (8y - 3x)(2x + 1)$$