

6.2

$$\begin{aligned} 1) \quad & 40r^3 - 8r^2 - 25r + 5 \\ & 8r^2(5r - 1) - 5(5r - 1) \\ & (5r - 1)(8r^2 - 5) \end{aligned}$$

$$\begin{aligned} 3) \quad & 3n^3 - 2n^2 - 9n + 6 \\ & n^2(3n - 2) - 3(3n - 2) \\ & (3n - 2)(n^2 - 3) \end{aligned}$$

$$\begin{aligned} 5) \quad & 15b^3 + 21b^2 - 35b - 49 \\ & 3b^2(5b + 7) - 7(5b + 7) \\ & (5b + 7)(3b^2 - 7) \end{aligned}$$

$$\begin{aligned} 7) \quad & 3x^3 + 15x^2 + 2x + 10 \\ & 3x^2(x + 5) + 2(x + 5) \\ & (x + 5)(3x^2 + 2) \end{aligned}$$

$$\begin{aligned} 9) \quad & 35x^3 - 28x^2 - 20x + 16 \\ & 7x^2(5x - 4) - 4(5x - 4) \\ & (5x - 4)(7x^2 - 4) \end{aligned}$$

$$\begin{aligned} 11) \quad & 7xy - 49x + 5y - 35 \\ & 7x(y - 7) + 5(y - 7) \\ & (y - 7)(7x + 5) \end{aligned}$$

$$\begin{aligned} 13) \quad & 32xy + 40x^2 + 12y + 15x \\ & 8x(4y + 5x) + 3(4y + 5x) \\ & (4y + 5x)(8x + 3) \end{aligned}$$

$$\begin{aligned} 15) \quad & 16xy - 56x + 2y - 7 \\ & 8x(2y - 7) + 1(2y - 7) \\ & (2y - 7)(8x + 1) \end{aligned}$$

$$\begin{aligned} 17) \quad & 2xy - 8x^2 + 7y^3 - 28y^2x \\ & 2x(y - 4x) + 7y^2(y - 4x) \\ & (y - 4x)(2x + 7y^2) \end{aligned}$$

$$\begin{aligned} 19) \quad & 40xy + 35x - 8y^2 - 7y \\ & 5x(8y + 7) - y(8y + 7) \\ & (8y + 7)(5x - y) \end{aligned}$$

$$\begin{aligned} 21) \quad & 32uv - 20u + 24v - 15 \\ & 4u(8v - 5) + 3(8v - 5) \\ & (8v - 5)(4u + 3) \end{aligned}$$

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

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

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