25. $x^2+10x-24$ (−24, 12, −2, 10)

$(x+12)(x-2)$

* Trinomial LC = 1

26. $4(5x^2+8x-4)$ (−20, 10, −2, 8)

$4(x^2+8x-20)$

$4\left(x+\frac{10}{5}\right)\left(x-\frac{2}{5}\right)$ *GCF + Trinomial LC ≠ 1

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

27. $x(3x^2+10x-8)$ (−24, 12, −2, 10)

$x(x^2+10x-24)$

$x\left(x+\frac{12}{3}\right)\left(x-\frac{2}{3}\right)$

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

* GCF + Trinomial LC ≠ 1

28. $2x^2(4x+1)-3(4x+1)$

$(4x+1)(2x^2-3)$

* Grouping

29. $8x^7(x^4-1)$

$8x^7(x^2+1)(x^2-1)$

$8x^7(x^2+1)(x+1)(x-1)$

* GCF + Diff. of Perf ■'s x2

30. $7(x^2-13x-30)$ (−30, −15, 2, −13)

$7(x-15)(x+2)$

* GCF + Trinomial LC = 1

31. $x(12x^2-29x-8)$ (−96, 3, −32, −29)

$x(x^2-29x-96)$

$x\left(x+\frac{3}{12}\right)\left(x-\frac{32}{12}\right)$ * GCF + Trinomial LC ≠ 1

$x(4x+1)(3x-8)$

32. $(x^3+2x^2)(-4x-8)$

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

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

$(x+2)(x+2)(x-2)$

33. $x^2-3x+\frac{9}{4}$ $\left(\frac{9}{4}, -\frac{3}{2}, -\frac{3}{2}, -3\right)$

$\left(x-\frac{3}{2}\right)\left(x-\frac{3}{2}\right)$

$\left(x-\frac{3}{2}\right)^2$

* perfect ■ Trinomial

34. $x^2-8x+16$ (16, −4, −4, −8)

$(x-4)(x-4)$

$(x-4)^2$ * perfect ■ trinomial

35. * grouping + Diff. of perf ■

$x^2(3x-1)+5(3x-1)$

$(3x-1)(x^2+5)$

* Grouping

36. $9(1-2x^5)$

* GCF

37. x^2-49

$(x+7)(x-7)$

* Diff. of perfect ■'s

38. $x^2+14x+48$ (48, 6, 8, 14)

$(x+6)(x+8)$

* Trinomial LC = 1

39. $16x^2+2x-3$ (−48, −6, 8, 2)

$x^2+2x-48$

$\left(x-\frac{6}{16}\right)\left(x+\frac{8}{16}\right)$

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

* Trinomial LC ≠ 1

40. $36y^2-81z^2$

$(6y+9z)(6y-9z)$

* Diff. of Perf. ■'s

41. $x^2(5x+2)+6(5x+2)$

$(5x+2)(x^2+6)$

* grouping

42. $x^2-3x-18$ (−18, −6, 3, −3)

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

* Trinomial LC = 1