

Factor

$$3a(b-2) + 1(b-2)$$



$$(b-2)(3a+1)$$

$$\begin{aligned} & \boxed{(x+2)(x-3)} + \boxed{(x+2)(x-5)} \\ & (x+2) \left[(x-3) + (x-5) \right] \\ & (x+2)(2x-8) \rightarrow \boxed{2(x-4)(x+2)} \end{aligned}$$

12
3 · 4

Factor

- ① Look for a GCF
- ② Count the # terms

2-terms <

3-terms <

4-terms < factor by grouping(pairs)

50. $x^3 - 2x^2 + 5x - 10$

51. $xy - 6x + 2y - 12$

(56)

$$\begin{aligned} & x^3 - 2x^2 + 5x - 10 \\ & x^2(x-2) + 5(x-2) \\ & (x-2)(x^2+5) \end{aligned} \quad \left\{ \begin{array}{l} x^3 - 2x^2 + 5x - 10 \\ x(x^2+5) - 2(x^2+5) \\ (x^2+5)(x-2) \end{array} \right.$$

51. $xy - 6x + 2y - 12$

$$x(y-6) + 2(y-6)$$

$$(y-6)(x+2)$$

58

$$\begin{array}{r} 3x^3 - 2x^2 - 6x + 4 \\ \times (3x-2) \end{array}$$

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

58. $3x^3 - 2x^2 - \underline{6x} + 4$

59. $x^2 - ax - bx + ab$

60. $x^2 + ax - bx - ab$

61. $x^3 - 12 - 3x^2 + 4x$

59
 $x(x-a) - b(x-a)$
 $(x-a)(x-b)$

$(x-a)(x-b)$

60

$$\begin{aligned} &x^2 + ax - bx - ab \\ &x(x+a) - b(x+a) \\ &(x+a)(x-b) \end{aligned}$$

61

$$\begin{aligned} &x^3 - 3x^2 + 4x - 12 = \\ &x^2(x-3) + 4(x-3) = \\ &\quad \textcircled{(x-3)} \quad \textcircled{(x^2+4)} \end{aligned}$$

$$\underline{2x^3 + 4x^2 - 5x - 10}$$

$$2x^2 + 4x^2 - 5x - 10$$

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

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

end
of 10.3

$$ay + \underline{bx} - by - \underline{ax}$$

$$ay - by - ax + bx$$

$$y(a-b) - x(a-b)$$

$$(a-b)(y-x) \quad (b-a)(x-y)$$

$$(x-dx - cy + dy)$$

$$x(-d) - y(-d)$$

$$(-d)(x-y)$$

$$\underline{ab} - c - \underline{ac} + b$$

$$\underline{\overline{ab}-ac} + (b-c)$$

$$a(b-c) + 1(b-c)$$

$$(b-c)(a+1)$$

3 terms

$$(x+3)(x+4)$$

$$x^2 + 4x + 3x + 12$$

$$\underline{x^2} + \underline{7x} + \underline{12}$$

F O L

1.12
 2.6
 3.4

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

$$x^2 - 4x + 3x - 12$$

$$\underline{x^2} - \underline{1x} - \underline{12}$$

F O L

1.12
 2.6
 3.4

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

$$\underline{x^2} - 2x - 8 < \underline{1.6}^{2.4}$$

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

$$\begin{array}{r} -4x \\ +2x \\ \hline -2x \end{array}$$

$$\underline{x^2} - 5x + 6 < \underline{1.6}^{2.3}$$

$$\cancel{(x+1)(x-4)}$$

$$\cancel{(x-2)(x-3)}$$

$$\begin{array}{r} -2x \\ -3x \\ \hline -5x \end{array}$$