



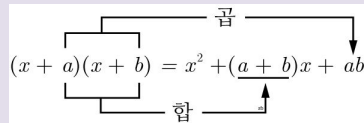
◇ 「콘텐츠산업 진흥법 시행령」 제33조에 의한 표시
1) 제작연월일 : 2016-02-16
2) 제작자 : 교육지대(주)
3) 이 콘텐츠는 「콘텐츠산업 진흥법」에 따라 최초 제작일부터 5년간 보호됩니다.

◇ 「콘텐츠산업 진흥법」 외에도 「저작권법」에 의하여 보호되는 콘텐츠의 경우, 그 콘텐츠의 전부 또는 일부를 무단으로 복제하거나 전송하는 것은 콘텐츠산업 진흥법 외에도 저작권법에 의한 법적 책임을 질 수 있습니다.

계산시 참고사항

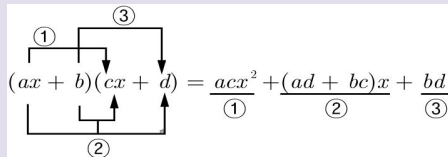
1. x 의 계수가 1인 두 일차식의 곱

$$(x+a)(x+b) = x^2 + (a+b)x + ab$$



2. x 의 계수가 1이 아닌 두 일차식의 곱

$$(ax+b)(cx+d) = acx^2 + (ad+bc)x + bd$$



3. 복잡한 식의 전개

- (1) 공통부분을 하나의 문자로 치환한다.
- (2) 곱셈공식을 이용하여 식을 전개한다.
- (3) (1)에서 치환한 식을 전개한 (2)의 식에 대입한다.
- (4) 전개한 후 동류항끼리 정리한다.



x 의 계수가 1인 두 일차식의 곱

■ 다음 ☐안에 알맞은 양수를 써넣어라.

1. $(x+5)(x-\square) = x^2 + \square x - 15$

2. $(x+\square)(x-2) = x^2 + 6x - \square$

■ 다음 식을 전개하여라.

3. $(x+5)(x+3)$

4. $(x+1)(x+2)$

5. $(x+5)(x+2)$

6. $(x-1)(x+7)$

7. $(y+3)(y+5)$

8. $(y-4)(y-6)$

9. $(a+3)(a+4)$

10. $(x+6)(x-4)$

11. $(b-6)(b-3)$

12. $(a+1)(a-4)$

13. $(y-5)(y+4)$

14. $(x+3)(x+7)$

15. $(x+2)(x+6)$

16. $(x-5)(x-3)$

17. $(x+2)(x+3)$

18. $(x-7)(x-2)$

19. $(x-5)(x+8)$

20. $(x-2)(x+10)$

21. $(a+5)(a-3)$

22. $(y-4)(y+3)$

23. $(x+2y)(x+y)$

24. $(x-3y)(x+2y)$

25. $(x+3y)(x-5y)$

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

27. $(a+6b)(a-9b)$

28. $(a-5b)(a-7b)$

29. $(x-8y)(x-2y)$

30. $(x+y)(x+2y)$

31. $(a-3b)(a+b)$

32. $(x-3y)(x-4y)$

33. $(a+6b)(a-2b)$

34. $(x-2y)(x+5y)$

35. $(a-3b)(a-b)$

36. $\left(x-\frac{1}{2}\right)\left(x-\frac{3}{2}\right)$

37. $\left(x-\frac{1}{2}\right)\left(x+\frac{1}{3}\right)$

38. $\left(a-\frac{1}{3}b\right)\left(a+\frac{2}{3}b\right)$

39. $\left(x+\frac{1}{3}y\right)\left(x-\frac{1}{4}y\right)$

 x 의 계수가 1이 아닌 두 일차식의 곱

■ 다음 안에 알맞은 양수를 써넣어라.

40. $(2x-1)(3x+\square) = 6x^2 + \square x - 4$

41. $(3a-\square)(4a-7) = 12a^2 - 41a + \square$

42. $(\square x - 3y)(x + 2y) = 4x^2 + \square xy - 6y^2$

43. $(a-6b)(a-\square b) = a^2 - 10ab + \square b^2$

■ 다음 식을 전개하여라.

44. $(2a+1)(3a+2)$

45. $(2x+5)(3x+4)$

46. $(2x+5)(x+2)$

47. $(3x-1)(4x+3)$

48. $(4x-1)(2x-7)$

49. $(3x-8)(5x-2)$

50. $(2x-9)(3x-5)$

51. $(3x+1)(2x+5)$

52. $(4a+3)(5a-1)$

53. $(-2x+3)(6x+5)$

54. $(3x-2)(4x+5)$

55. $(3x+4)(2x-7)$

56. $(2x-5y)(3x-4y)$

57. $(5x+3y)(3x-2y)$

58. $(2x+y)(4x-7y)$

59. $(2x+9y)(3x-5y)$

60. $(4a+b)(5a-3b)$

61. $(3x+4)(2x-3)$

62. $(2x-7)(5x+1)$

73. $(-3x+1)(2x-3)$

63. $(2a+7b)(5a-3b)$

74. $(2x+5y)(3x-2y)$

64. $(a-b)(2a-3b)$

75. $(3x-5y)(2x+y)$

65. $(a+b)(2a-3b)$

76. $(-4x+3y)(3x-2y)$

66. $(5a+6b)(3a-8b)$

77. $\left(\frac{1}{3}x+4\right)(6x+3)$

67. $(2x-y)(3x+y)$

78. $(3x+2y)(4x+3y)$

68. $(-x+y)(3x-2y)$

79. $(2x+6y)(5x-3y)$

69. $(3x+2y)(-2x+3y)$

80. $(5x-9y)(3x+2y)$

70. $(-3a+2b)(-2a-4b)$

81. $\left(\frac{1}{2}y-3\right)\left(\frac{1}{3}y-4\right)$

71. $(3x+2)(4x+3)$

82. $\left(\frac{1}{2}a-3b\right)\left(\frac{1}{3}a+4b\right)$

72. $(2x+5)(3x+6)$

83. $\left(\frac{1}{3}a+4b\right)\left(\frac{1}{4}a-3b\right)$



복잡한 식의 계산

▣ 다음 식을 전개하여라.

84. $3(2a-b)^2$

85. $(a+b)(a-2b+1)$

86. $(x+2y+1)(3x-y)$

87. $(2a-b+2)(a-3b)$

88. $(x+2y)^2-3xy$

89. $(a+b)(a-b)-b^2$

90. $(x+3)^2+(x-2)(x-5)$

91. $(2x-1)^2-(x-7)(x-3)+(-5-x)(-5+x)$

92. $2(a+5)(a-5)-(a-4)(a-1)-(a+1)^2$

93. $(x-y)^2-(x+y)^2$

94. $(x-4)^2-(x-2)$

95. $(2x-3y)^2-2(x-2y)(x+2y)$

96. $(2a+b)(3a+2b+4)$

97. $(x+3y)(x-4y-7)$

98. $(-4x+3y-5)(2x-3y)$

99. $(a-3)(a-4)-(2a-3)$

100. $(x+5y)(x-5y)-(2x-3y)^2$

101. $(x-y+1)(x+y+1)$

102. $(x+3y-1)(x-3y+1)$

103. $(a-b+1)(a-b+5)$

104. $(x-y)(x-y-2)$

105. $(x-y+2)(x-y-2)$

106. $(a-b+4)^2$

107. $(x+2y-1)^2$

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

109. $(2x-y+3)(2x-y-3)$

110. $(x-y+1)(-x-y-1)$

정답 및 해설



1) 3, 2

$$\Rightarrow (x+5)(x-A) = x^2 + Bx - 15 \text{로 놓으면}$$

$$x^2 + (5-A)x - 5A = x^2 + Bx - 15$$

$$\text{즉, } 5-A=B, -5A=-15 \text{ 이므로 } A=3, B=2$$

2) 8, 16

$$\Rightarrow (x+A)(x-2) = x^2 + 6x - B \text{로 놓으면}$$

$$x^2 + (A-2)x - 2A = x^2 + 6x - B$$

$$\text{즉, } A-2=6, -2A=-B \text{ 이므로 } A=8, B=16$$

3) $x^2 + 8x + 15$ 4) $x^2 + 3x + 2$ 5) $x^2 + 7x + 10$ 6) $x^2 + 6x - 7$ 7) $y^2 + 8y + 15$ 8) $y^2 - 10y + 24$

$$\Rightarrow (y-4)(y-6)$$

$$= y^2 - 6y - 4y + 24$$

$$= y^2 - 10y + 24$$

9) $a^2 + 7a + 12$ 10) $x^2 + 2x - 24$ 11) $b^2 - 9b + 18$ 12) $a^2 - 3a - 4$ 13) $y^2 - y - 20$

$$\Rightarrow (y-5)(y+4)$$

$$= y^2 + 4y - 5y - 20$$

$$= y^2 - y - 20$$

14) $x^2 + 10x + 21$ 15) $x^2 + 8x + 12$

$$\Rightarrow (x+2)(x+6) = x^2 + (2+6)x + 2 \times 6 = x^2 + 8x + 12$$

16) $x^2 - 8x + 15$ 17) $x^2 + 5x + 6$ 18) $x^2 - 9x + 14$ 19) $x^2 + 3x - 40$ 20) $x^2 + 8x - 20$ 21) $a^2 + 2a - 15$ 22) $y^2 - y - 12$ 23) $x^2 + 3xy + 2y^2$ 24) $x^2 - xy - 6y^2$ 25) $x^2 - 2xy - 15y^2$ 26) $x^2 - 4xy - 12y^2$ 27) $a^2 - 3ab - 54b^2$ 28) $a^2 - 12ab + 35b^2$ 29) $x^2 - 10xy + 16y^2$ 30) $x^2 + 3xy + 2y^2$ 31) $a^2 - 2ab - 3b^2$ 32) $x^2 - 7xy + 12y^2$

$$\Rightarrow (x-3y)(x-4y) = x^2 + (-3y-4y)x + (-3y) \times (-4y) \\ = x^2 - 7xy + 12y^2$$

33) $a^2 + 4ab - 12b^2$

$$\Rightarrow (a+6b)(a-2b)$$

$$= a^2 + (6b-2b)a + 6b \times (-2b)$$

$$= a^2 + 4ab - 12b^2$$

34) $x^2 + 3xy - 10y^2$

$$\Rightarrow (x-2y)(x+5y)$$

$$= x^2 + (-2y+5y)x + (-2y) \times 5y$$

$$= x^2 + 3xy - 10y^2$$

35) $a^2 - 4ab + 3b^2$

$$\Rightarrow (a-3b)(a-b)$$

$$= a^2 + (-3b-b)a + (-3b) \times (-b)$$

$$= a^2 - 4ab + 3b^2$$

36) $x^2 - 2x + \frac{3}{4}$

$$\Rightarrow \left(x - \frac{1}{2}\right) \left(x - \frac{3}{2}\right)$$

$$= x^2 - \left(\frac{1}{2} + \frac{3}{2}\right)x + \frac{1}{2} \times \frac{3}{2}$$

$$= x^2 - 2x + \frac{3}{4}$$

$$37) x^2 - \frac{1}{6}x - \frac{1}{6}$$

$$\begin{aligned} &\Rightarrow \left(x - \frac{1}{2}\right)\left(x + \frac{1}{3}\right) \\ &= x^2 + \left(-\frac{1}{2} + \frac{1}{3}\right)x + \left(-\frac{1}{2}\right) \times \frac{1}{3} \\ &= x^2 - \frac{1}{6}x - \frac{1}{6} \end{aligned}$$

$$38) a^2 + \frac{1}{3}ab - \frac{2}{9}b^2$$

$$\begin{aligned} &\Rightarrow (\text{주어진 식}) = a^2 + \left(-\frac{1}{3} + \frac{2}{3}\right)ab + \left(-\frac{1}{3} \times \frac{2}{3}\right)b^2 \\ &= a^2 + \frac{1}{3}ab - \frac{2}{9}b^2 \end{aligned}$$

$$39) x^2 + \frac{1}{12}xy - \frac{1}{12}y^2$$

$$\begin{aligned} &\Rightarrow \left(x + \frac{1}{3}y\right)\left(x - \frac{1}{4}y\right) \\ &= x^2 + \left(\frac{1}{3} - \frac{1}{4}\right)xy + \left\{\frac{1}{3} \times \left(-\frac{1}{4}\right)\right\}y^2 \\ &= x^2 + \frac{1}{12}xy - \frac{1}{12}y^2 \end{aligned}$$

$$40) 4, 5$$

$$\begin{aligned} &\Rightarrow (2x-1)(3x+A) = 6x^2 + Bx - 4 \text{로 놓으면} \\ &6x^2 + (2A-3)x - A = 6x^2 + Bx - 4 \\ &\text{즉, } 2A-3=B, -A=-4 \text{ 이므로 } A=4, B=5 \end{aligned}$$

$$41) 5, 35$$

$$\begin{aligned} &\Rightarrow (3a-A)(4a-7) = 12a^2 - 41a + B \text{로 놓으면} \\ &12a^2 + (-21-4A)a + 7A = 12a^2 - 41a + B \\ &\text{즉, } -21-4A=-41, 7A=B \text{ 이므로 } A=5, B=35 \end{aligned}$$

$$42) 4, 5$$

$$\begin{aligned} &\Rightarrow (Ax-3y)(x+2y) = 4x^2 + Bxy - 6y^2 \text{으로 놓으면} \\ &>Ax^2 + (2A-3)xy - 6y^2 = 4x^2 + Bxy - 6y^2 \\ &\text{즉, } A=4, 2A-3=B \text{ 이므로 } A=4, B=5 \end{aligned}$$

$$43) 4, 24$$

$$\begin{aligned} &\Rightarrow (a-6b)(a-Ab) = a^2 - 10ab + Bb^2 \text{으로 놓으면} \\ &a^2 + (-6-A)ab + 6Ab^2 = a^2 - 10ab + Bb^2 \\ &\text{즉, } -6-A=-10, 6A=B \text{ 이므로 } A=4, B=24 \end{aligned}$$

$$44) 6a^2 + 7a + 2$$

$$45) 6x^2 + 23x + 20$$

$$46) 2x^2 + 9x + 10$$

$$\Rightarrow (2x+5)(x+2) = 2x^2 + (4+5)x + 10 = 2x^2 + 9x + 10$$

$$47) 12x^2 + 5x - 3$$

$$\Rightarrow (3x-1)(4x+3) = 12x^2 + (9-4)x - 3 = 12x^2 + 5x - 3$$

$$48) 8x^2 - 30x + 7$$

$$49) 15x^2 - 46x + 16$$

$$50) 6x^2 - 37x + 45$$

$$\begin{aligned} &\Rightarrow (2x-9)(3x-5) \\ &= (2 \times 3)x^2 - (2 \times 5 + 9 \times 3)x + (-9) \times (-5) \\ &= 6x^2 - 37x + 45 \end{aligned}$$

$$51) 6x^2 + 17x + 5$$

$$52) 20a^2 + 11a - 3$$

$$\begin{aligned} &53) -12x^2 + 8x + 15 \\ &\Rightarrow (-2x+3)(6x+5) \\ &= -12x^2 + (-10+18)x + 15 \\ &= -12x^2 + 8x + 15 \end{aligned}$$

$$54) 12x^2 + 7x - 10$$

$$55) 6x^2 - 13x - 28$$

$$\begin{aligned} &56) 6x^2 - 23xy + 20y^2 \\ &\Rightarrow (2x-5y)(3x-4y) = 6x^2 + (-8y-15y)x + 20y^2 \\ &= 6x^2 - 23xy + 20y^2 \end{aligned}$$

$$57) 15x^2 - xy - 6y^2$$

$$58) 8x^2 - 10xy - 7y^2$$

$$59) 6x^2 + 17xy - 45y^2$$

$$\begin{aligned} &60) 20a^2 - 7ab - 3b^2 \\ &\Rightarrow (4a+b)(5a-3b) \\ &= 20a^2 + (-12b+5b)a - 3b^2 \\ &= 20a^2 - 7ab - 3b^2 \end{aligned}$$

$$61) 6x^2 - x - 12$$

$$62) 10x^2 - 33x - 7$$

$$63) 10a^2 + 29ab - 21b^2$$

$$\begin{aligned} &64) 2a^2 - 5ab + 3b^2 \\ &\Rightarrow (a-b)(2a-3b) \\ &= 2a^2 + (-3b-2b)a + 3b^2 \\ &= 2a^2 - 5ab + 3b^2 \end{aligned}$$

$$65) 2a^2 - ab - 3b^2$$

$$66) 15a^2 - 22ab - 48b^2$$

$$67) 6x^2 - xy - y^2$$

68) $-3x^2 + 5xy - 2y^2$

$$\begin{aligned}
 69) & -6x^2 + 5xy + 6y^2 \\
 \Rightarrow & (3x+2y)(-2x+3y) \\
 & = -6x^2 + 9xy - 4xy + 6y^2 \\
 & = -6x^2 + 5xy + 6y^2
 \end{aligned}$$

$$\begin{aligned}
 70) & 6a^2 + 8ab - 8b^2 \\
 \Rightarrow & (-3a+2b)(-2a-4b) \\
 & = 6a^2 + 12ab - 4ab - 8b^2 \\
 & = 6a^2 + 8ab - 8b^2
 \end{aligned}$$

71) $12x^2 + 17x + 6$

72) $6x^2 + 27x + 30$

$$\begin{aligned}
 73) & -6x^2 + 11x - 3 \\
 \Rightarrow & (-3x+1)(2x-3) \\
 & = -6x^2 + 9x + 2x - 3 \\
 & = -6x^2 + 11x - 3
 \end{aligned}$$

74) $6x^2 + 11xy - 10y^2$

$$\begin{aligned}
 75) & 6x^2 - 7xy - 5y^2 \\
 76) & -12x^2 + 17xy - 6y^2 \\
 \Rightarrow & (-4x+3y)(3x-2y) \\
 & = (-4 \times 3)x^2 + \{(-4) \times (-2) + 3 \times 3\}xy + \{3 \times (-2)\}y^2 \\
 & = -12x^2 + 17xy - 6y^2
 \end{aligned}$$

$$\begin{aligned}
 77) & 2x^2 + 25x + 12 \\
 \Rightarrow & \left(\frac{1}{3}x+4\right)(6x+3) \\
 & = \left(\frac{1}{3} \times 6\right)x^2 + \left(\frac{1}{3} \times 3 + 4 \times 6\right)x + 4 \times 3 \\
 & = 2x^2 + 25x + 12
 \end{aligned}$$

78) $12x^2 + 17xy + 6y^2$

79) $10x^2 + 24xy - 18y^2$

$$\begin{aligned}
 80) & 15x^2 - 17xy - 18y^2 \\
 \Rightarrow & (5x-9y)(3x+2y) \\
 & = (5 \times 3)x^2 + \{5 \times 2 + (-9) \times 3\}xy + \{(-9) \times 2\}y^2 \\
 & = 15x^2 - 17xy - 18y^2
 \end{aligned}$$

$$\begin{aligned}
 81) & \frac{1}{6}y^2 - 3y + 12 \\
 \Rightarrow & \left(\frac{1}{2}y-3\right)\left(\frac{1}{3}y-4\right) \\
 & = \frac{1}{6}y^2 + (-2-1)y + 12 = \frac{1}{6}y^2 - 3y + 12
 \end{aligned}$$

82) $\frac{1}{6}a^2 + ab - 12b^2$

$$\begin{aligned}
 83) & \frac{1}{12}a^2 - 12b^2 \\
 \Rightarrow & \left(\frac{1}{3}a+4b\right)\left(\frac{1}{4}a-3b\right) \\
 & = \left(\frac{1}{3} \times \frac{1}{4}\right)a^2 + \left\{\frac{1}{3} \times (-3) + 4 \times \frac{1}{4}\right\}ab + \{4 \times (-3)\}b^2 \\
 & = \frac{1}{12}a^2 - 12b^2
 \end{aligned}$$

$$\begin{aligned}
 84) & 12a^2 - 12ab + 3b^2 \\
 \Rightarrow & (\text{주어진 식}) = 3(4a^2 - 4ab + b^2) \\
 & = 12a^2 - 12ab + 3b^2
 \end{aligned}$$

85) $a^2 - ab - 2b^2 + a + b$

86) $3x^2 + 5xy - 2y^2 + 3x - y$

87) $2a^2 - 7ab + 3b^2 + 2a - 6b$

$$\begin{aligned}
 88) & x^2 + xy + 4y^2 \\
 \Rightarrow & (\text{주어진 식}) = x^2 + 4xy + 4y^2 - 3xy \\
 & = x^2 + xy + 4y^2
 \end{aligned}$$

$$\begin{aligned}
 89) & a^2 - 2b^2 \\
 \Rightarrow & (\text{주어진 식}) = a^2 - b^2 - b^2 = a^2 - 2b^2
 \end{aligned}$$

$$\begin{aligned}
 90) & 2x^2 - x + 19 \\
 \Rightarrow & (\text{주어진 식}) = x^2 + 6x + 9 + x^2 - 7x + 10 \\
 & = 2x^2 - x + 19
 \end{aligned}$$

$$\begin{aligned}
 91) & 2x^2 + 6x + 5 \\
 \Rightarrow & (2x-1)^2 - (x-7)(x-3) + (-5-x)(-5+x) \\
 & = 4x^2 - 4x + 1 - x^2 + 10x - 21 + 25 - x^2 \\
 & = 2x^2 + 6x + 5
 \end{aligned}$$

$$\begin{aligned}
 92) & 3a - 55 \\
 \Rightarrow & 2(a+5)(a-5) - (a-4)(a-1) - (a+1)^2 \\
 & = 2a^2 - 50 - a^2 + 5a - 4 - a^2 - 2a - 1 \\
 & = 3a - 55
 \end{aligned}$$

$$\begin{aligned}
 93) & -4xy \\
 \Rightarrow & (\text{주어진 식}) = x^2 - 2xy + y^2 - (x^2 + 2xy + y^2) \\
 & = -4xy
 \end{aligned}$$

$$\begin{aligned}
 94) & x^2 - 9x + 18 \\
 \Rightarrow & (\text{주어진 식}) = x^2 - 8x + 16 - x + 2 \\
 & = x^2 - 9x + 18
 \end{aligned}$$

95) $2x^2 - 12xy + 17y^2$

$$\begin{aligned} \Rightarrow (2x-3y)^2 - 2(x-2y)(x+2y) \\ = 4x^2 - 12xy + 9y^2 - 2(x^2 - 4y^2) \\ = 2x^2 - 12y + 17y^2 \end{aligned}$$

$$\begin{aligned} 96) \quad & 6a^2 + 7ab + 2b^2 + 8a + 4b \\ \Rightarrow (2a+b)(3a+2b+4) \\ & = 6a^2 + 4ab + 8a + 3ab + 2b^2 + 4b \\ & = 6a^2 + 7ab + 2b^2 + 8a + 4b \end{aligned}$$

$$\begin{aligned} 97) \quad & x^2 - xy - 12y^2 - 7x - 21y \\ \Rightarrow (x+3y)(x-4y-7) \\ & = x^2 - 4xy - 7x + 3xy - 12y^2 - 21y \\ & = x^2 - xy - 12y^2 - 7x - 21y \end{aligned}$$

$$\begin{aligned} 98) \quad & -8x^2 + 18xy - 9y^2 - 10x + 15y \\ \Rightarrow (-4x+3y-5)(2x-3y) \\ & = -8x^2 + 12xy + 6xy - 9y^2 - 10x + 15y \\ & = -8x^2 + 18xy - 9y^2 - 10x + 15y \end{aligned}$$

$$\begin{aligned} 99) \quad & a^2 - 9a + 15 \\ \Rightarrow (\text{주어진 식}) = a^2 - 7a + 12 - 2a + 3 \\ & = a^2 - 9a + 15 \end{aligned}$$

$$\begin{aligned} 100) \quad & -3x^2 + 12xy - 34y^2 \\ \Rightarrow (\text{주어진 식}) = x^2 - 25y^2 - (4x^2 - 12xy + 9y^2) \\ & = -3x^2 + 12xy - 34y^2 \end{aligned}$$

$$\begin{aligned} 101) \quad & x^2 + 2x + 1 - y^2 \\ \Rightarrow x+1 = A \text{라 하면} \\ (x-y+1)(x+y+1) & = (A-y)(A+y) = A^2 - y^2 \\ & = (x+1)^2 - y^2 \\ & = x^2 + 2x + 1 - y^2 \end{aligned}$$

$$\begin{aligned} 102) \quad & x^2 - 9y^2 + 6y - 1 \\ \Rightarrow 3y-1 = A \text{라 하면} \\ (x+3y-1)(x-3y+1) & = (x+A)(x-A) = x^2 - A^2 \\ & = x^2 - (3y-1)^2 \\ & = x^2 - (9y^2 - 6y + 1) \\ & = x^2 - 9y^2 + 6y - 1 \end{aligned}$$

$$\begin{aligned} 103) \quad & a^2 - 2ab + b^2 + 6a - 6b + 5 \\ \Rightarrow a-b = A \text{라 하면} \\ (a-b+1)(a-b+5) & = (A+1)(A+5) = A^2 + 6A + 5 \\ & = (a-b)^2 + 6(a-b) + 5 \\ & = a^2 - 2ab + b^2 + 6a - 6b + 5 \end{aligned}$$

$$104) \quad x^2 - 2xy + y^2 - 2x + 2y$$

$$\begin{aligned} 105) \quad & x^2 - 2xy + y^2 - 4 \\ \Rightarrow x-y = A \text{라 하면} \\ (x-y+2)(x-y-2) & = (A+2)(A-2) \\ & = A^2 - 4 \\ & = x^2 - 2xy + y^2 - 4 \end{aligned}$$

$$\begin{aligned} 106) \quad & a^2 - 2ab + b^2 + 8a - 8b + 16 \\ \Rightarrow a-b = A \text{라 하면} \\ (a-b+4)^2 & = (A+4)^2 = A^2 + 8A + 16 \\ & = (a-b)^2 + 8(a-b) + 16 \\ & = a^2 - 2ab + b^2 + 8a - 8b + 16 \end{aligned}$$

$$\begin{aligned} 107) \quad & x^2 + 4xy + 4y^2 - 2x - 4y + 1 \\ \Rightarrow x+2y = A \text{라 하면} \\ (x+2y-1)^2 & = (A-1)^2 = A^2 - 2A + 1 \\ & = (x+2y)^2 - 2(x+2y) + 1 \\ & = x^2 + 4xy + 4y^2 - 2x - 4y + 1 \end{aligned}$$

$$\begin{aligned} 108) \quad & 2x - 5 \\ \Rightarrow x-2 = A, \quad x-3 = B \text{로 치환하면} \\ (x-2)^2 - (x-3)^2 \\ & = A^2 - B^2 = (A+B)(A-B) \\ & = 2x - 5 \end{aligned}$$

$$\begin{aligned} 109) \quad & 4x^2 - 4xy + y^2 - 9 \\ \Rightarrow 2x-y = A \text{라 하면} \\ (2x-y+3)(2x-y-3) & = (A+3)(A-3) = A^2 - 9 \\ & = (2x-y)^2 - 9 \\ & = 4x^2 - 4xy + y^2 - 9 \end{aligned}$$

$$\begin{aligned} 110) \quad & -1 - 2x - x^2 + y^2 \\ \Rightarrow (x-y+1)(-x-y-1) & = \{(x+1)-y\}\{-(x+1)-y\} \\ & = (A-y)(-A-y) \\ & = -A^2 + y^2 = -x^2 - 2x - 1 + y^2 \end{aligned}$$