

8.3) Binomial Products continued.

FOIL

$$\begin{aligned} 24. \quad & (x+2)(x-5) \\ & = x^2 - 5x + 2x - 10 \\ & = x^2 - 3x - 10 \end{aligned}$$

$$\begin{aligned} 26. \quad & (a+9)(a-5) \\ & = a^2 - 5a + 9a - 45 \\ & = a^2 + 4a - 45 \end{aligned}$$

$$\begin{aligned} 31. \quad & (x+5)(2x+1) \\ & = 2x^2 + x + 10x + 5 \\ & = 2x^2 + 11x + 5 \end{aligned}$$

$$\begin{aligned} 33. \quad & (x-1)(2x-1) \\ & = 2x^2 - x - 2x + 1 \\ & = 2x^2 - 3x + 1 \end{aligned}$$

$$\begin{aligned} 37. \quad & (2x+3)(2x+1) \\ & = 2x(2x+3) + 1(2x+3) \\ & = 4x^2 + 6x + 2x + 3 \\ & = 4x^2 + 8x + 3 \end{aligned}$$

$$\begin{aligned} 41. \quad & (7y-3)(2y-7) \\ & = 14y^2 - 49y - 6y + 21 \\ & = 14y^2 - 55y + 21 \end{aligned}$$

$$\begin{aligned} 44. \quad & (x-1.2)(x+3) \\ & = x^2 + 3x - 1.2x - 3.6 \\ & = x^2 + 1.8x - 3.6 \end{aligned}$$

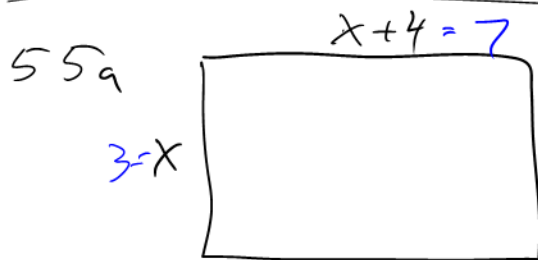
$$\begin{aligned}
 47. \quad & 2(x+3)(x+5) \\
 &= 2(x^2 + \underline{5x+3x} + 15) \\
 &= 2(x^2 + 8x + 15) \\
 &= 2x^2 + 16x + 30
 \end{aligned}$$

$$2 \times 3 \times 5 = 30$$

BEDMAS

$$\begin{aligned}
 49. \quad & -1(a+3)(a-2) \\
 &= -1(a^2 - 2a + 3a - 6) \\
 &= -1(a^2 + a - 6) \\
 &= -a^2 - a + 6
 \end{aligned}$$

$$\begin{aligned}
 51. \quad & 3(2x-1)(3x-2) \\
 &= 3(6x^2 - \underline{4x-3x} + 2) \\
 &= 3(6x^2 - 7x + 2) \\
 &= 18x^2 - 21x + 6
 \end{aligned}$$



$$x = 3 \text{ cm}$$

Method 1

$$\begin{aligned}
 A &= (3)(7) \\
 &= 21 \text{ cm}^2
 \end{aligned}$$

Method

$$\begin{aligned}
 A &= x(x+4) \\
 A &= x^2 + 4x \\
 A &= (3)^2 + 4(3) \\
 A &= 9 + 12 = 21 \text{ cm}^2
 \end{aligned}$$

$$58. \quad 1000(1+r)^2$$

$$\begin{aligned}
 a) \quad & 1000(1+r)(1+r) \\
 &= 1000(1 + \underline{r+r} + r^2) \\
 &= 1000(1 + 2r + r^2) \\
 &= 1000 + 2000r + 1000r^2
 \end{aligned}$$

b) $r = 0.08$

BEDMAS

$$\begin{aligned}
 & 1000(1+0.08)^2 \\
 &= 1000(1.08)^2 \\
 &= 1000(1.1664) \\
 &= 1166.40
 \end{aligned}$$

8.4 / Factoring Trinomials of $x^2 + bx + c$

S.	Sum $m+n$	Product mn	m	n
a)	7	12	3	4
b)	8	15	3	5
c)	13	12	1	12
d)	18	77	7	11
e)	-8	15	-3	-5
f)	-10	25	-5	-5
g)	4	-12	-2	6

$\begin{array}{l} 1, 12 \\ -2, 6 \\ -3, 4 \end{array}$

$\begin{array}{l} 1, 15 \\ -3, 5 \end{array}$

$\begin{array}{l} 1, 77 \\ 7, 11 \end{array}$

$\begin{array}{l} -1, -25 \\ -5, -5 \end{array}$

7. $x^2 + 7x + 10$ $\otimes 10$
 $\oplus 7$
 $= (x+2)(x+5)$

$\begin{array}{l} 1, 10 \\ 2, 5 \end{array}$

8. $y^2 - 8y + 15$ $\otimes 15$
 $\oplus -8$ $\begin{array}{l} -1, -15 \\ -3, -5 \end{array}$
 $= (y-3)(y-5)$

9. $w^2 - w - 56$ $\otimes -56$
 $\oplus -1$
 $= (w+7)(w-8)$

$\begin{array}{l} 1, -56 \\ 2, -28 \\ 4, -14 \\ 7, -8 \end{array}$

HW: 8.3 pg 280 #23-55b
 8.4 pg 283 #6-15