

WARMUP

Distribute

$$1) 6x(x+5) = 6x^2 + 30x$$

$$2) 4y^2(y^2+2y) = 4y^4 + 8y^3$$

$$3) -6x^2(3x^2-2x-7) = -18x^4 + 12x^3 + 42x^2$$

Section 5.2 Continued

Multiply 2 binomials

$$\begin{aligned}(x+3)(x+2) &= x(x+2) + 3(x+2) \\ &= x^2 + 2x + 3x + 6 \\ &= x^2 + 5x + 6\end{aligned}$$

$$\begin{aligned}(x+4)(x+5) &= x(x+5) + 4(x+5) \\ &= x^2 + 5x + 4x + 20 \\ &= x^2 + 9x + 20\end{aligned}$$

	x	4
x	x^2	$4x$
5	$5x$	20

$$\begin{aligned}(3x+7)(2x-4) &= 3x(2x-4) + 7(2x-4) \\ &= 6x^2 - 12x + 14x - 28 \\ &= 6x^2 + 2x - 28\end{aligned}$$

$$\begin{aligned}(5x+3)(2x-7) &= 5x(2x-7) + 3(2x-7) \\ &= 10x^2 - 35x + 6x - 21 \\ &= 10x^2 - 29x - 21\end{aligned}$$

Binomial multiplied by a trinomial

$$\begin{aligned}(5x+2)(x^2-4x+3) &= 5x(x^2-4x+3) + 2(x^2-4x+3) \\ &= 5x^3 - 20x^2 + 15x + 2x^2 - 8x + 6 \\ &= 5x^3 - 18x^2 + 7x + 6\end{aligned}$$

$$\begin{aligned}(2x-3)(x^2+4x-5) &= 2x(x^2+4x-5) - 3(x^2+4x-5) \\ &= 2x^3 + 8x^2 - 10x - 3x^2 - 12x + 15 \\ &= 2x^3 + 5x^2 - 22x + 15\end{aligned}$$

p340 55-63 odd, 67-73 odd, 93, 95

55) $(x+3)(x+5)$

57) $(2x+1)(x+4)$

59) $(x+3)(x-5)$

61) $(x-11)(x+9)$

63) $(2x-5)(x+4)$

67) $(x+1)(x^2+2x+3) = x(x^2+2x+3) + 1(x^2+2x+3)$

69) $(y-3)(y^2-3y+4)$

71) $(2a-3)(a^2-3a+5)$

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

	x^2	$2x$	3
x	x^3	$2x^2$	$3x$
1	x^2	$2x$	3

$x^3 + 3x^2 + 5x + 3$

93) $(x+4)(x-5) - (x+3)(x-6)$
 $(x^2 - x - 20) - (x^2 - 3x - 18) = x^2 - x - 20 - x^2 + 3x + 18$

95) $4x^2(5x^3+3x-2) - 5x^3(x^2-6)$