

8.8 | Product of Polynomials

Expanding

$$1. \quad 3(x^2 + 3x - 5)$$

$$= 3x^2 + 9x - 15$$

$$2. \quad 2(3a^2 - 5a + 7)$$

$$= 6a^2 - 10a + 14$$

$$7. \quad x(x^2 + 11x + 28)$$

$$= x^3 + 11x^2 + 28x$$

$$12. \quad (x+2)(x^2 - 3x + 1)$$

$$= x^3 - \underline{3x^2} + \underline{x} + \underline{2x^2} - \underline{6x} + \underline{2}$$

$$= x^3 - x^2 - 5x + 2$$

Recall

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

$$26. \quad (3a^2 - 5a - 6)(a+3)$$

$$= 3a^3 + 9a^2 - 5a^2 - 15a - 6a - 18$$

$$= 3a^3 + 4a^2 - 21a - 18$$

$$32. (x^2 - 3xy + y^2)(x - 2)$$

$$= x^3 - 2x^2 - 3xy + 6xy + xy^2 - 2y^2$$

Off Book

expand $(x^2 + 3x - 4)(2x^2 - 4x + 5)$

$$= 2x^4 - 4x^3 + 5x^2 + 6x^3 - 12x^2 + 15x - 8x^2 + 16x - 20$$

$$= 2x^4 + 2x^3 - 15x^2 + 31x - 20$$

You do # 15, 30, 34 pg 291

40. a)

$$2x+1 \begin{array}{|c|} \hline 3x-2 \\ \hline \end{array}$$

$$A = lw$$

$$A = (3x-2)(2x+1)$$

$$A = 6x^2 + 3x - 4x - 2$$

$$A = 6x^2 - x - 2$$

Back to the back of the outline

$$9) \quad 3 - 26xy + 35x^2y^2 \quad \begin{matrix} \otimes & 105 \\ + & -26 \end{matrix}$$

$$\begin{matrix} 1, 105 \\ 3, 35 \\ \hline -5, -21 \end{matrix}$$

$$= \underbrace{3 - 21xy}_3 \underbrace{-5xy + 35x^2y^2}_{-5xy}$$

$$= 3(1 - 7xy) - 5xy(1 - 7xy)$$

$$= (1 - 7xy)(3 - 5xy)$$

$$h) \quad 6 - 17mn - 45m^2n^2 \quad \begin{matrix} \otimes & -270 \\ + & -17 \end{matrix}$$

$$10, -27$$

$$= \underbrace{6 - 27mn}_3 + \underbrace{10mn - 45m^2n^2}_{5mn}$$

$$= 3(2 - 9mn) + 5mn(2 - 9mn)$$

$$= (2 - 9mn)(3 + 5mn)$$

Homework: pg 291 All.

Quiz on Friday

Test on Tuesday.