

Section 5.4. Subtracting Polynomials

recall, how to subtract integers:

$$(-4) - (-3) = (-4) + (+3) = -1$$

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

$$(+10) - (-3) = (+10) + (+3) = 13$$

$$(-1) - (5) = (-1) + (-5) = -6$$

* note: to subtract integers we have to
ADD the OPPOSITE

* subtracting polynomials is much like
subtracting integers, we still have to add
the opposite.

Examples: ① $(3x^2 - 2x - 1) - (-2x^2 - x + 2)$

$$= (3x^2 - 2x - 1) + (2x^2 + x - 2) \quad \text{add opposite}$$

$$= 3x^2 - 2x - 1 + 2x^2 + x - 2 \quad \text{remove brackets}$$

$$= 3x^2 + 2x^2 - 2x + x - 1 - 2 \quad \text{group like terms}$$

$$= 5x^2 - x - 3 \quad \text{add coefficients of like terms}$$

$$\begin{aligned} \textcircled{2} & (-5k^2 + 2k - 6) - (3k^2 - 4k + 1) \\ &= (-5k^2 + 2k - 6) + (-3k^2 + 4k - 1) \\ &= -5k^2 + 2k - 6 - 3k^2 + 4k - 1 \\ &= \underline{-5k^2 - 3k^2} + \underline{2k + 4k} - \underline{6 - 1} \\ &= -8k^2 + 6k - 7 \end{aligned}$$

$$\begin{aligned} \textcircled{3} & (4p + 3) - (2p + 1) \\ &= 4p + 3 - 2p - 1 \\ &= 4p - 2p + 3 - 1 \\ &= 2p + 2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} & (7e^2 + 1 - 8e) - (1 - 8e + 7e^2) \\ &= 7e^2 + 1 - 8e - 1 + 8e - 7e^2 \\ &= 7e^2 - 7e^2 - 8e + 8e + 1 - 1 \\ &= 0 \end{aligned}$$

Complete: pg 235-236

#'s 8, 9, 10, 12, 13, 15, 16, 17