

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

$$(7x - 2) - (5x - 1)$$

## Subtracting Polynomials

$$(8x - 2) - (6x^2 + 7)$$

$$(4x^2 + 2x) - (-3x^2 + 8x - 7)$$

When **no #**  
appears in front  
of the bracket  
we assume it is **"1"**

## Subtracting Polynomials

$$(7x + 3) - (5x + 3)$$

**"+1"**  
Signs stay  
the same

$$= 1(7x + 3) - 1(5x + 3)$$

**"-1"**  
Signs change to  
the opposite!

$$= 1(7x + 3) - 1(5x + 3)$$

$$= \underline{7x} + \underline{3} - \underline{5x} - \underline{3}$$

$$= 2x$$

$$\begin{aligned} & (8x^2 + 2x - 3) - (3x^2 + 3x + 2) \\ = & \mathbf{1}(8x^2 + 2x - 3) - \mathbf{1}(3x^2 + 3x + 2) \\ = & 8x^2 + 2x - 3 - 3x^2 - 3x - 2 \\ = & \textcircled{8x^2} + \textcircled{2x} - \textcircled{3} - \textcircled{3x^2} - \textcircled{3x} - \textcircled{2} \\ = & 5x^2 - 1x - 5 \end{aligned}$$

# Remember When Multiplying

When the signs  
are the **same**  
the product is "+"

$$\left. \begin{array}{l} \ominus \times \ominus = \oplus \\ \oplus \times \oplus = \oplus \end{array} \right\}$$

When the signs  
are the **different**  
the product is "-"

$$\left. \begin{array}{l} \ominus \times \oplus = \ominus \\ \oplus \times \ominus = \ominus \end{array} \right\}$$

$$(5 - 7n^2) - (3n^2 - 4) - (-6n^2 - 3)$$

$$= 1(5 - 7n^2) - 1(3n^2 - 4) - 1(-6n^2 - 3)$$

$$= 5 - 7n^2 - 3n^2 + 4 + 6n^2 + 3$$

$$= \textcircled{5} - 7n^2 - 3n^2 + \textcircled{4} + 6n^2 + \textcircled{3}$$

$$= -4n^2 + 12$$

**Now it's your turn!!**

$$\begin{aligned} & (5 - 4p^2) - (-7p^2 - 1) - (-6p^2 - 4p + 5) \\ &= \mathbf{1}(5 - 4p^2) - \mathbf{1}(-7p^2 - 1) - \mathbf{1}(-6p^2 - 4p + 5) \\ &= 5 - 4p^2 + 7p^2 + 1 + 6p^2 + 4p - 5 \\ &= \textcircled{5} - \textcircled{4p^2} + \textcircled{7p^2} + \textcircled{1} + \textcircled{6p^2} + \textcircled{4p} - \textcircled{5} \\ &= 9p^2 + 4p + 1 \end{aligned}$$