**5.4 – Subtracting Polynomials**

Just like for adding polynomials, we can use algebra tiles to help us subtract polynomials. Sometimes, we need to add \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ so that we are able to take away the correct number of tiles.

Ex. 1: $\left(3x^{2}-2x+4\right)-\left(2x^{2}-5x-2\right)$

To subtract polynomials algebraically, we must distribute the subtraction to all of the terms in the second polynomial. This essentially \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on each term in the second polynomial. Then, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as usual to simplify.

Ex. 2: Subtract the following polynomials algebraically.

1. $\left(3x^{2}-4x\right)-\left(2x^{2}-6x\right)$

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| Method 1 - Horizontally | Method 2 - Vertically |
|  |  |

1. $\left(-2a^{2}+a-1\right)-\left(a^{2}-3a+2\right)$
2. $\left(5x^{2}-3xy+2y^{2}\right)-\left(8x^{2}-7xy-4y^{2}\right)$
3. $\left(3p-2\right)+\left(4p^{2}-2p+1\right)-(p^{2}+4p-2)$