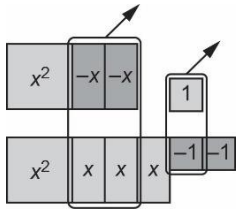
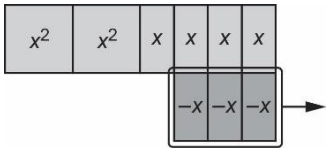
Algebra

Activity 2 Assessment

Adding and Subtracting Polynomial Expressions

Content: Adding and Subtracting Polynomials

Adds polynomials concretely by combining like terms and removing zero pairs	Adds polynomials symbolically by adding the numerical coefficients	Subtracts polynomials concretely by adding zero pairs as needed	Flexibly adds and subtracts polynomials symbolically, thinks of subtraction as adding the opposite
$(x^2 - 2x + 1) + (x^2 + 3x - 2)$  "I modelled the polynomials with tiles, and removed zero pairs, leaving $2x^2 + x - 1$."	$(x^2 - 2x + 1) + (x^2 + 3x - 2)$ "I added the numerical coefficients of like terms. $1x^2 + 1x^2 = 2x^2$ $-2x + 3x = 1x$ $1 - 2 = -1$ So, the sum is $2x^2 + x - 1$."	$(2x^2 + x) - (-3x)$ "To subtract $-3x$, I added 3 zero pairs of x-tiles as there were no $-x$-tiles to take away.  The result is $2x^2 + 4x$."	"To subtract $(a^2 - 4a + 4) - (-7a^2 - 2a + 5)$, I added the opposite: $(a^2 - 4a + 4) + (7a^2 + 2a - 5) = 8a^2 - 2a - 1$."

Observations/Documentation

Algebra

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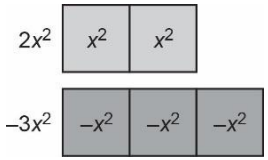
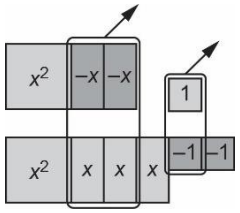
Competency: Connecting			
Connects size and shape of algebra tiles with like terms "I know $2x^2$ and $-3x^2$ are like terms because the tiles used to represent them have the same size and shape." 	When adding polynomials, connects like terms with different colours or with opposite signs to zero pairs  "To add $(x^2 - 2x + 1)$ and $(x^2 + 3x - 2)$, I can remove pairs of tiles with the same size and shape but different colours. I am left with $2x^2 + x - 1$."	Adds and subtracts polynomials, making connections between the operations "I know that when subtracting polynomials, I can add the opposite. So, $(5m^2 + 4m - 3) - (2m^2 - 6m + 1)$ is the same as $(5m^2 + 4m - 3) + (-2m^2 + 6m - 1)$, which simplifies to $3m^2 + 10m - 4$."	Connects understanding of adding and subtracting polynomials to real-world situations "Carmen walks dogs for \$25 per dog and feeds cats for \$5 per cat. Carmen buys \$30 worth of dog treats and cat food for \$1.65 per cat. $25d + 5c - 30 - 1.65c$ represents the amount of money Carmen makes for walking d dogs and feeding c cats. The expression simplifies to $25d + 3.35c - 30$."
Observations/Documentation			