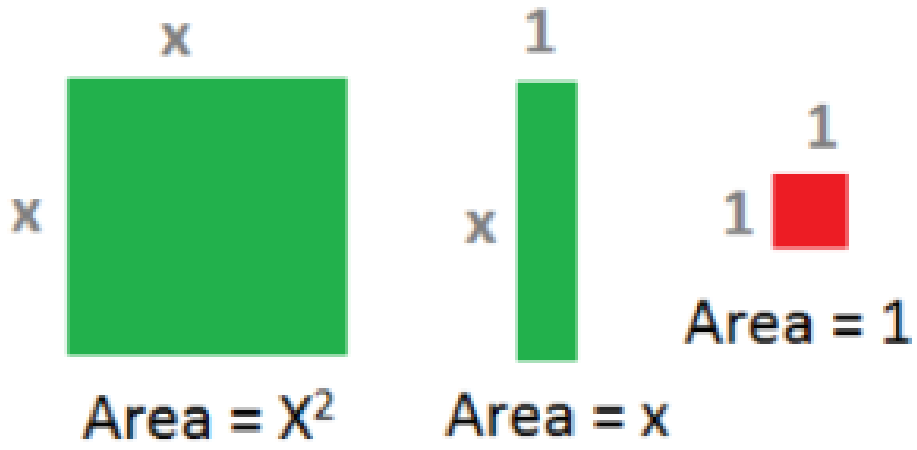
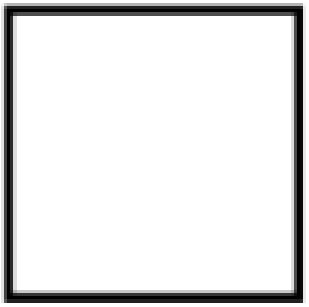
Algebra tiles are square and rectangular shaped objects whose **AREAS** are used to represent different algebraic expressions.

The **shape**, **size**, and **colour** of the objects all mean something.

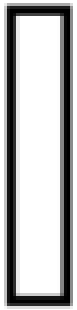
Coloured tiles represent positive values.



White tiles represent negative values.



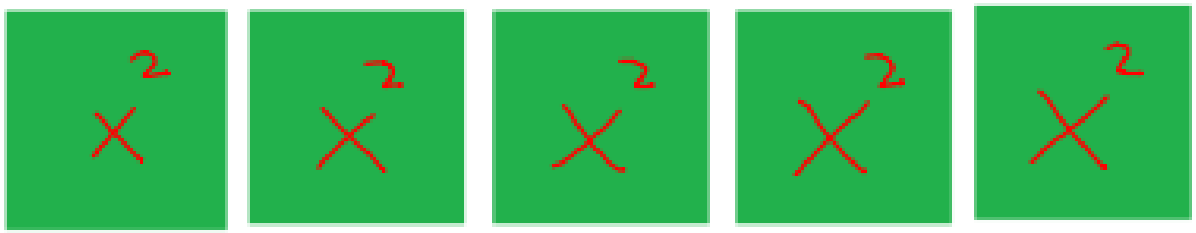
Area = $-X^2$



Area = -x

Area = -1

Grouping together algebra tiles of the same shape and size creates monomials whose coefficients represent "how many of them are there". The coefficient will be negative if the shapes are white:



$= 5x^2$

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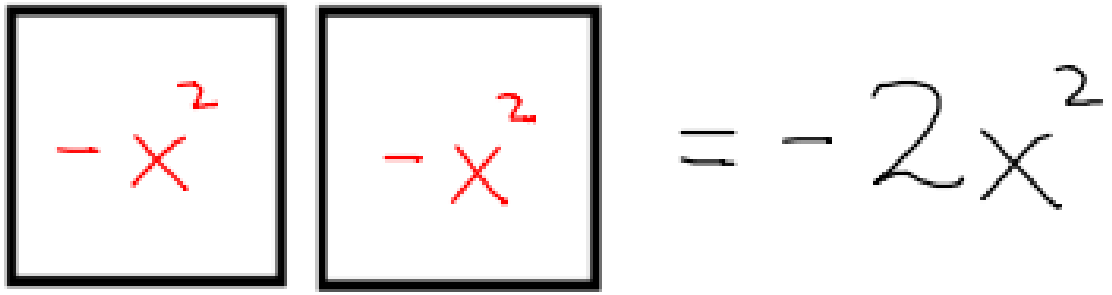

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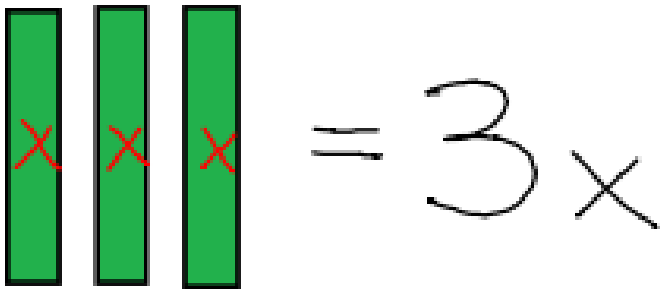

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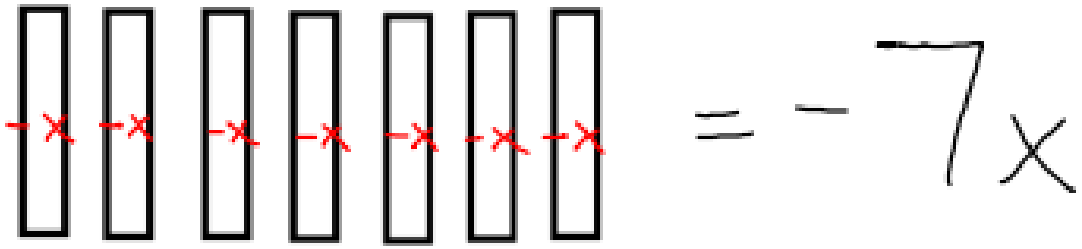

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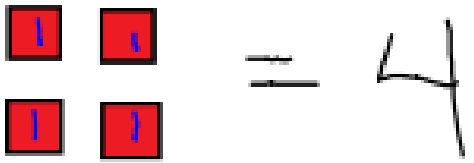

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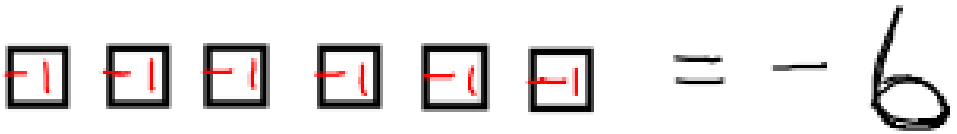
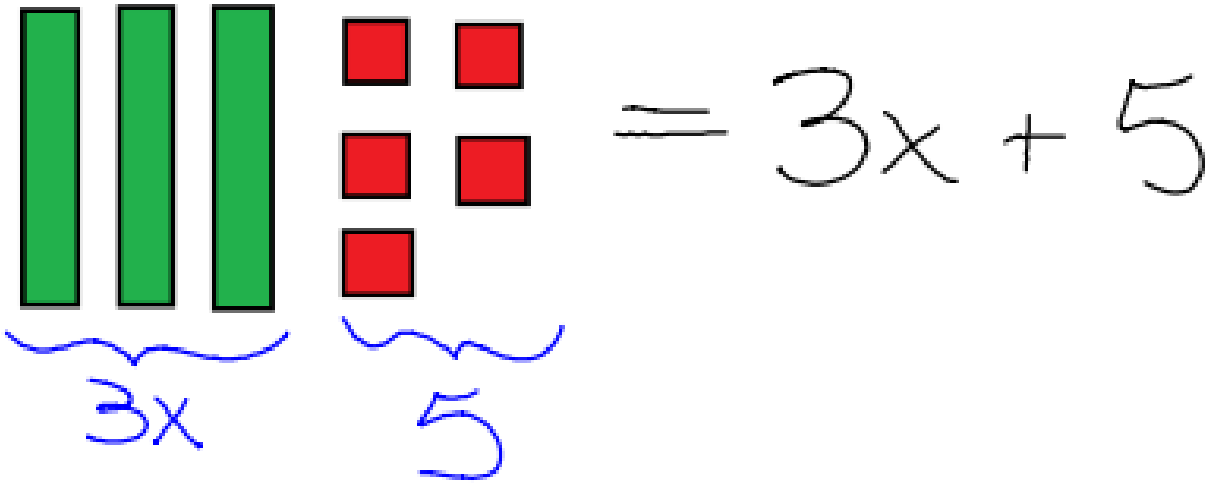
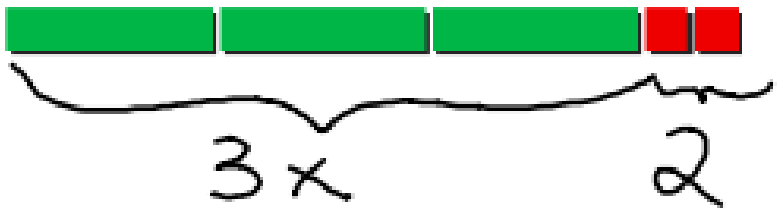


Grouping together algebra tiles of different shapes and sizes create polynomials. The coefficients on each term represent "how many of that shape and size are there". Colour (or lack of colour) tells us whether we have positives or negatives:

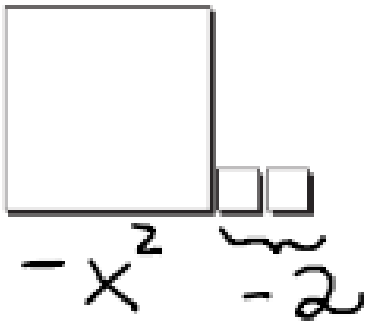


$= 3x + 5$

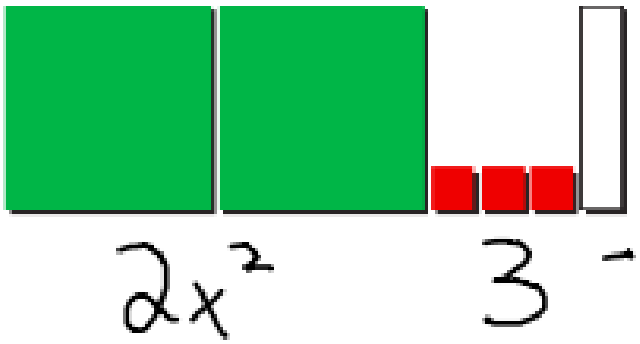
What polynomials are represented by the tiles?



$= 3x + 2$



$= -x^2 + (-2) \Rightarrow -x^2 - 2$

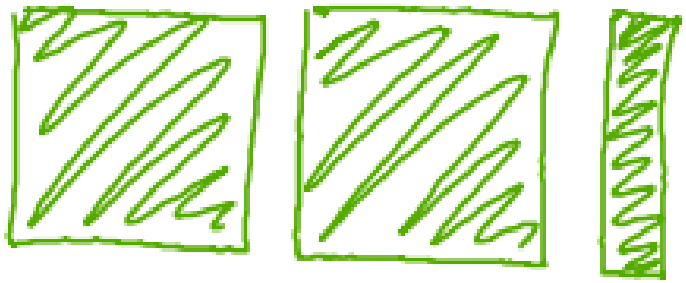


$= 2x^2 + 3 - x$

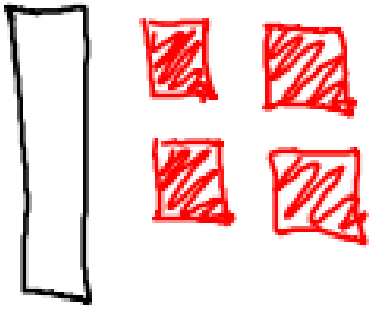
$= 2x^2 - x + 3$

Model each polynomial with algebra tiles:

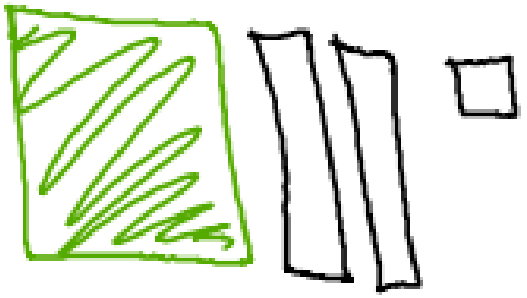
$2x^2 + x$ =



$-x + 4$ =



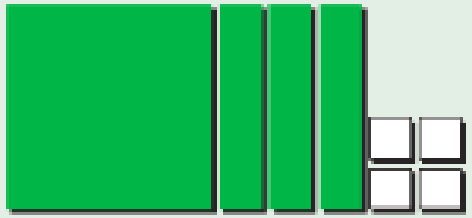
$x^2 - 2x - 1$ =



Show You Know

a) Model $-x^2 + 4x - 3$.

b) What expression is shown by the algebra tile model?



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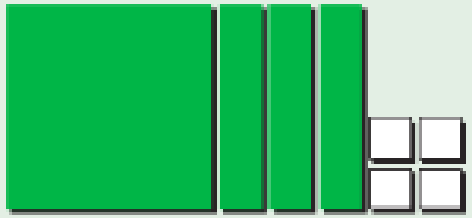

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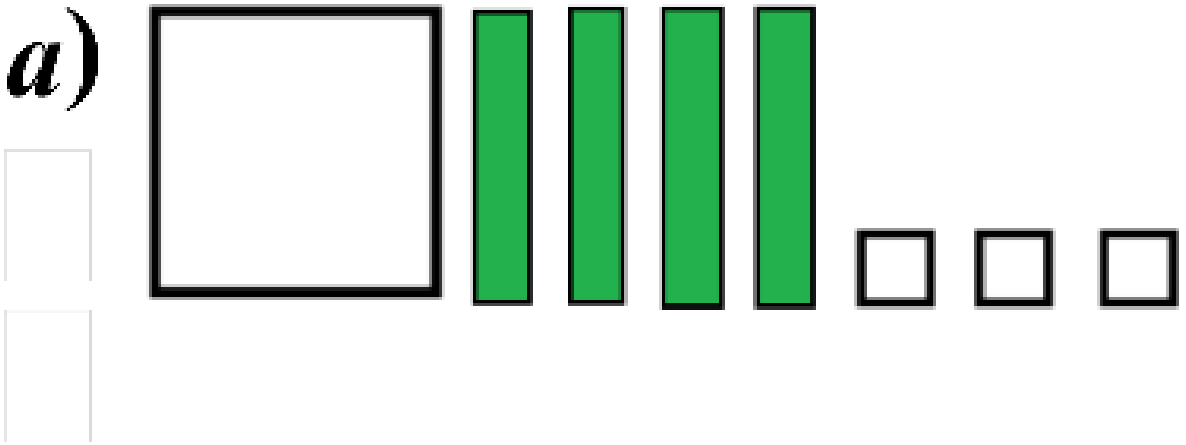

b) $x^2 + 3x - 4$

Check your understanding:

Pg. 179-180

#11, 12, 13, 14