Factoring Using the Area Model

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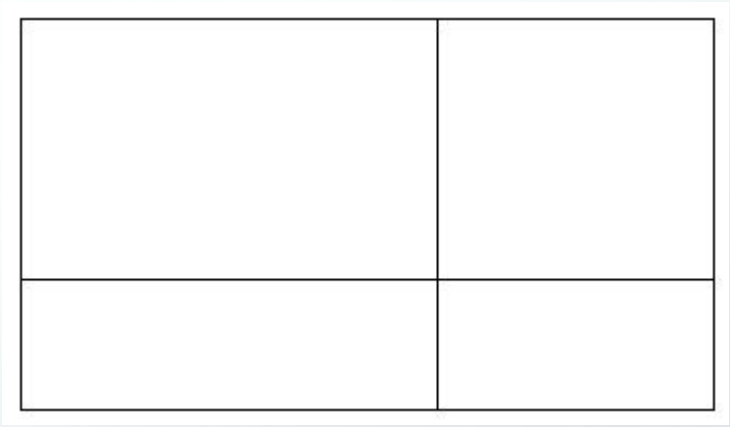
NCCTM 17

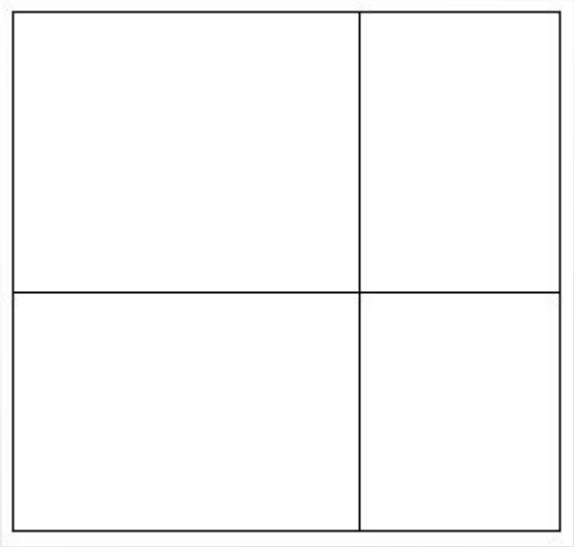
Understanding the Structure of the Area Model

36 x 84



Multiplication of Linear Terms

$(x+2)(x-5)$



Factoring Using the Area Model

Advanced Factoring

Simplify & write in standard form. Show each area model to justify your work.

$(4x + 5)(x + 2)$ $(2x + 1)(3x + 2)$ $(3x - 4)(5x - 1)$ $(2x + 3)(7x - 5)$



Make a list of Observations

bit.ly/AdvFactor

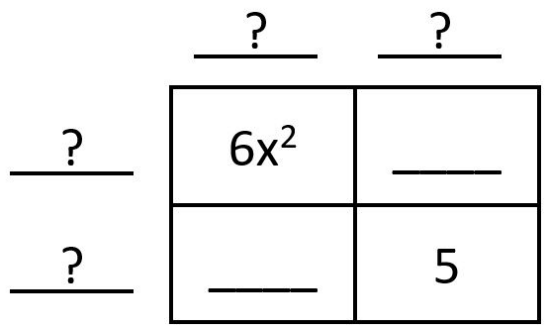

Consider the quadratic $6x^2 + \_?\_ + 5$

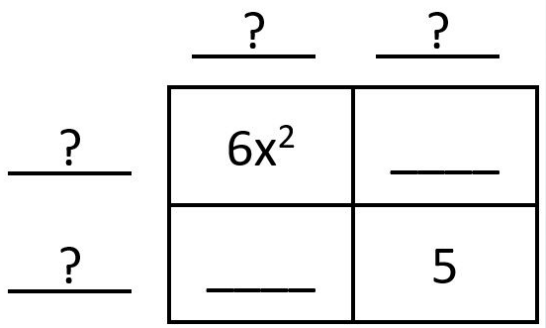
In the area model, what is the product of each diagonal?

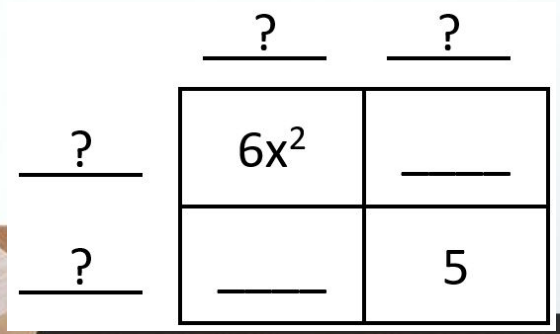
	?	?
?	$6x^2$	____
?	____	5

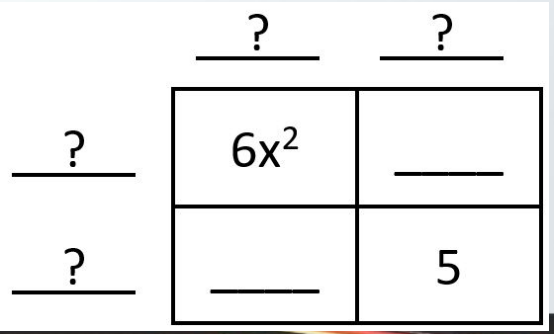
- Determine all possible terms that can be used to complete the model.
- Build an area model for each.

Possible Area Models



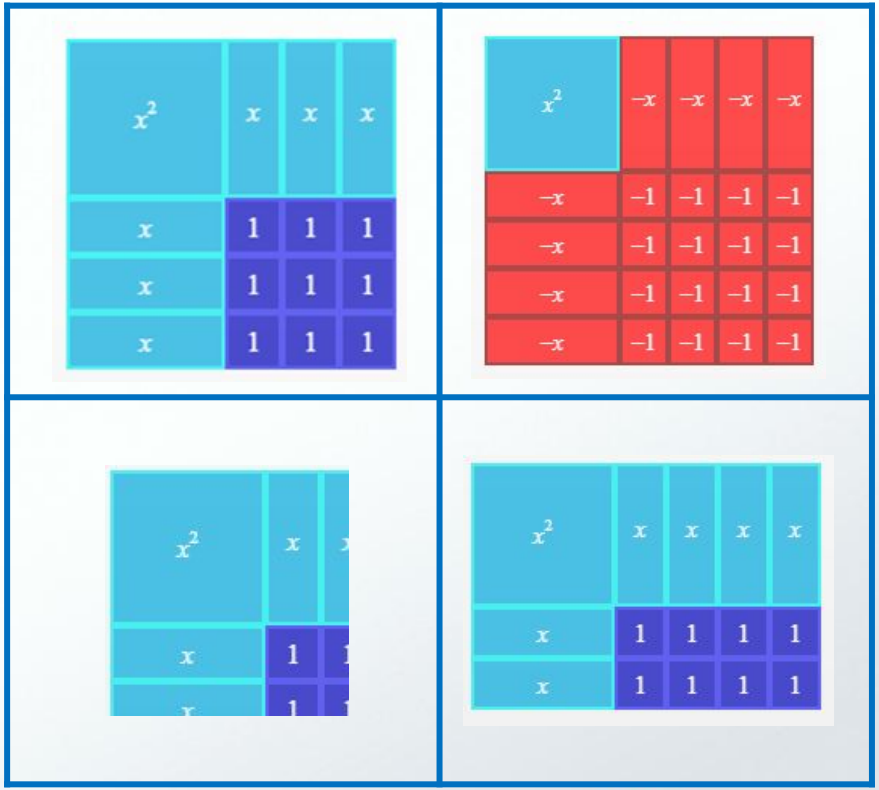






Factor Quadratic Expressions when a≠1

Which One Doesn't Belong



Completing the Square

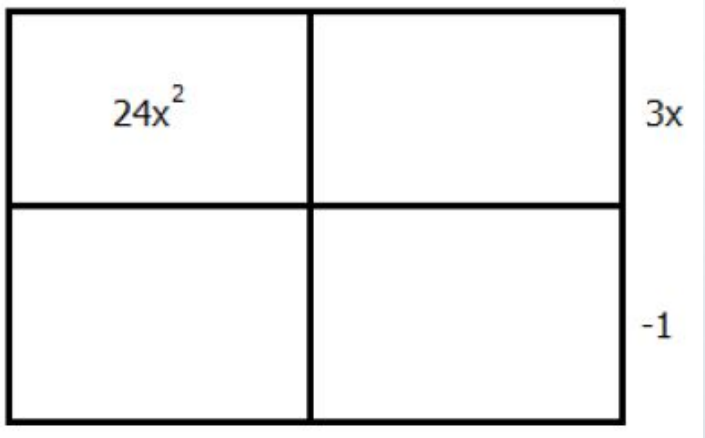
$$x^2 + 6x + 7$$

- Adapt the area model by creating a square to represent as much of the area as possible.
- Record the remaining area as a separate rectangle.

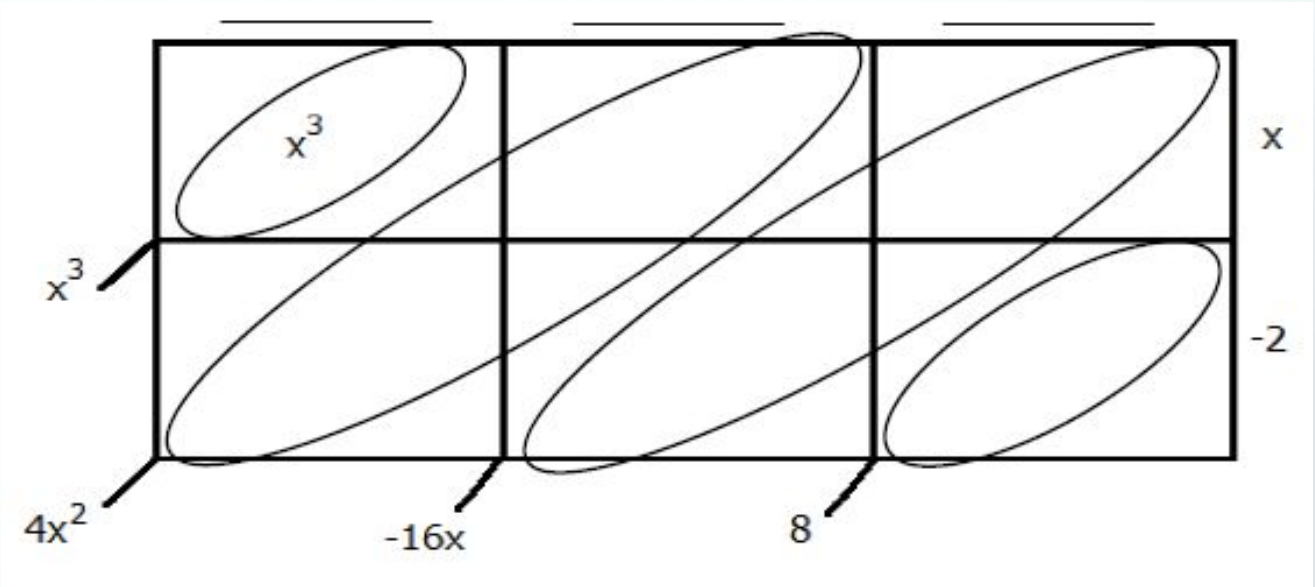

More Completing the Square

Using the Area Model to Divide Polynomials

$(24x^2 + 13x - 7) \div (3x - 1)$



$(x^3 + 4x^2 - 16x + 8) \div (x - 2)$



$$(x^3 + 7x^2 + 14x + 3) \div (x + 2)$$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