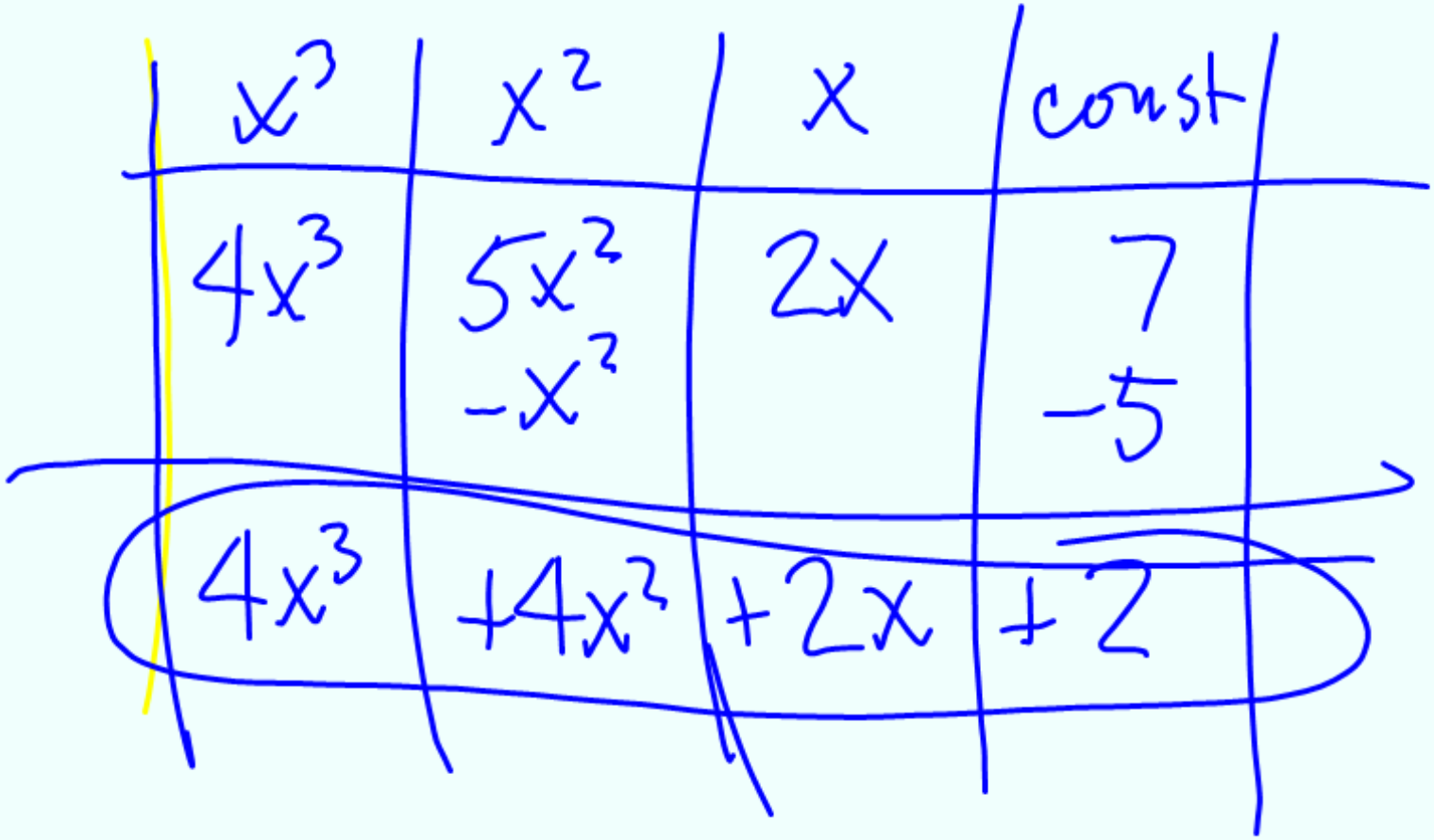
Lesson 2 - Multiplying Polynomials

Find the area of the red, yellow and blue regions

7

A

28


x^3
x^2
x
const
$4x^3$
$5x^2$
$-x^2$
$2x$
7
-5
$4x^3$
$+4x^2$
$+2x$
$+2$

Lesson 2 - Multiplying Polynomials

Review of multiplication and exponents

$5 \cdot 5 = 5^2$ $\qquad$ $x \cdot x = x^2$

$9 \cdot 9 \cdot 9 = 9^3$ $\qquad$ $x \cdot x \cdot x = x^3$

What is x^5? $x \cdot x \cdot x \cdot x \cdot x$

Simplify $(3x)(7x^2)$

$3 \cdot 7 \quad x^1 x^2$

$21 x^3$

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Activity - Multiplying Polynomials using Algebra Tiles

Directions:

Distribute algebra tiles and have the students model the problem

Model the problem using algebra tiles

$$(x+1)(x+3)$$

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Model the probem using algebra tiles

$$(2x+1)(x+2)$$

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Multiply using distributive property

$(2x+1)(x+2)$

$5(x+1)$

$2x(x+2) + 1(x+2)$

$2x^2 + 4x + 1x + 2$

$2x^2 + 5x + 2$

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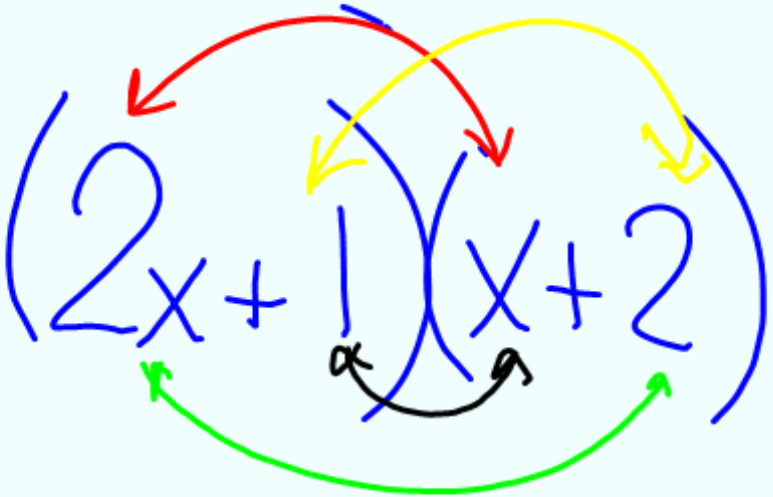
Multiply using FOIL

$$(2x+1)(x+2)$$



First
Outer
Inner
Last

$$2x^2 + 4x + 1x + 2$$

$$2x^2 + 5x + 2$$

Lesson 2 - Multiplying Polynomials

Compare Algebra tiles, Distribution and FOIL

$$(2x+1)(x+2)$$

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Simplify the expressions using the algebra tiles, distribution or FOIL.

$(7x+3)(5x+6)$

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

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How could we simplify this expression?

$$(3x-2)(7x^2-5x+8)$$