

THIN SLICING

U4, L1: Factoring Polynomials: GCF

Math 10
Ms. Provencal




Teacher: “Let’s start with a bit of review. How would I multiply $5(x+3)$?”

[Teacher writes on the board $5(x+3) =$]

Class: “ $5x+15$ ”

Teacher: “Ok. So what if my answer was $3x+12$? What would the question be?”

[Teacher writes on the board $__(\) = 3x+12$]

<p>MILD 3 pts</p> 	<p>MEDIUM 4 pts</p> 	<p>SPICY 5 pts</p> 
<p>$5(x + 3) = 5x + 15$ $__(\) = 3x + 12$ $__(\) = 7x + 21$ $__(\) = 13x + 26$ $__(\) = 8x + 2$ $__(\) = 8x + 6$ $__(\) = 15x + 6$</p>	<p>$__(\) = 12x + 6$ $__(\) = 12x + 20$ $__(\) = 24x + 20$ $__(\) = 8x - 20$ $__(\) = 40x - 56$ $__(\) = 24y - 36$</p>	<p>$__(\) = 7x^2 + 5x$ $__(\) = 15x^2 + 45x$ $__(\) = 32x^5y^2 + 40xy$ $__(\) = 15x^2y^2 - 40x^3y^2$ $__(\) = 96x^2y^3z - 80x^4y^2z^3$ $__(\) = 4x^3 - 2x + 6x$ $__(\) = 8x^3y^5 - 24x^2y^4 + 6x$ $__(\) = 6x^2y + 14xy^2 - 42xy - 2x^2y^2$</p>

THIN SLICING

U4, L2: Factoring Polynomials: a=1

Teacher: "Let's start with a bit of review. How would I expand $(x+2)(x+3)$?"




[Teacher writes on the board $(x+2)(x+3) =$]

Class: " x^2+5x+6 "

Teacher: "Ok. So what if my answer was x^2+7x+6 ? What would the question be?"

[Teacher writes on the board $(\quad)(\quad) = x^2+7x+6$]

*DIALOG & MOST PROBLEMS FROM the book "Building Thinking Classrooms in Mathematics" by Peter Liljedahl

MILD 3 pts 	MEDIUM 4 pts 	SPICY 5 pts 
$(x+2)(x+3) = x^2 + 5x + 6$	$(\quad)(\quad) = x^2 + 10x - 24$	$(\quad)(\quad) = x^2 - 25$
$(\quad)(\quad) = x^2 + 7x + 6$	$(\quad)(\quad) = x^2 + 4x - 12$	$(\quad)(\quad) = x^2 - 49$
$(\quad)(\quad) = x^2 + 7x + 12$	$(\quad)(\quad) = x^2 - x - 12$	$(\quad)(\quad) = x^2 - 10x + 24$
$(\quad)(\quad) = x^2 + 14x + 24$	$(\quad)(\quad) = x^2 - 2x - 24$	$(\quad)(\quad) = x^2 - 13x + 12$
$(\quad)(\quad) = x^2 + 25x + 24$	$(\quad)(\quad) = x^2 - 6x - 16$	$(x+2)(x - \quad) = x^2 - x - \underline{\quad}$
	$(\quad)(\quad) = x^2 - 0x - 16$	$(x-6)(x + \quad) = x^2 - \underline{\quad}x - 24$

THIN SLICING

U4, L3: Factoring Polynomials: $a \neq 1$

Math 10
Ms. Provencal




Teacher: "Let's start with a bit of review. How would I expand $(7x+2)(5x+3)$?"

[Teacher writes on the board $(7x+2)(5x+3) =$]

Class: "15x²+31x+6"

Teacher: "Ok. So what if my answer was $6x^2+17x+5$? What would the question be?"

[Teacher writes on the board $(5x+6)(3x+1) = 15x^2+23x+6$]

<p>MILD 3 pts</p> 	<p>MEDIUM 4 pts</p> 	<p>SPICY 5 pts</p> 
<p>$(7x + 2)(5x + 3) = 15x^2 + 31x + 6$</p> <p>$() () = 15x^2 + 23x + 6$</p> <p>$() () = 3x^2 + 9x + 6$</p> <p>$() () = 3x^2 + 17x + 20$</p> <p>$() () = 14x^2 + 34x + 20$</p> <p>$() () = 8x^2 + 34x + 8$</p> <p>$() () = 8x^2 + 20x + 8$</p>	<p>$() () = 5x^2 - 3x - 8$</p> <p>$() () = 18x^2 - 3x - 6$</p> <p>$() () = 18x^2 + 32x - 8$</p> <p>$() () = 18x^2 + 9x - 35$</p> <p>$() () = 3x^2 - 22x + 35$</p> <p>$() () = 12x^2 - 14x + 4$</p> <p>$() () = 12x^2 - 19x + 4$</p>	<p>$() () = 24x^2 + 74x - 60$</p> <p>$() () = 12x^2 - x - 35$</p> <p>$() () = 10x^2 + 7x - 12$</p> <p>$(x - 2)(x^2 + \underline{\quad} + 5) =$ $x^3 + x^2 - 11x + 10$</p> <p>$(5x + \underline{\quad})(2x^2 + 10x - 6) =$ $10x^3 + 56x - 18$</p> <p>$(\underline{\quad}x + 4)(2x^2 + \underline{\quad}x + 3) =$ $4x^3 + 20x^2 + 30x + 12$</p>