

Name: KEY

Section 5.1b – Proficiency Check – Multiplying Binomials and Trinomials

Multiply the following, leave answers in descending order.

$(x + 5)(x^2 + 3x - 4)$

$$\widehat{x^2}(x+5) + \widehat{3x}(x+5) - \widehat{4}(x+5)$$

$$x^3 + 5x^2 + 3x^2 + 15x - 4x - 20$$

$$x^3 + 8x^2 + 11x - 20$$

$(2x + 3y)(x^2y + 3x - 4y - 2xy^2)$

$$x^2y(2x+3y) + 3x(2x+3y) - 4y(2x+3y) - 2xy^2(2x+3y)$$

$$2x^3y + 3x^2y^2 + 6x^2 + 9xy - 8xy - 12y^2 - 4x^2y^2 - 6xy^3$$

$$2x^3y - x^2y^2 + 6x^2 + xy - 12y^2 - 6xy^3$$

$\begin{matrix} 4 & 4 & 2 & 2 & 2 & 4 \end{matrix}$

$$2x^3y - x^2y^2 - 6xy^3 + 6x^2 + xy - 12y^2$$

Multiply using FOIL, leave answers in descending order.

<p style="text-align: center;">$(x + 5)(x - 8)$</p> <p style="text-align: center;">FOIL</p> $x^2 - 8x + 5x - 40$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $x^2 - 3x - 40$ </div>	<p style="text-align: center;">$(3x - 2y)(6x + 5y)$</p> $18x^2 + 15xy - 12xy - 10y^2$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $18x^2 + 3xy - 10y^2$ </div>
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Multiply using FOIL, leave answers in descending order. What is special about the following products.

$(x + 2)(x - 2)$ $x^2 - 2x + 2x - 4$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $x^2 - 4$ </div>	$(2x + 3y)(2x - 3y)$ $4x^2 - 6xy + 6xy - 9y^2$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $4x^2 - 9y^2$ </div>
$(x + 3)(x + 3)$ $x^2 + 3x + 3x + 9$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $x^2 + 6x + 9$ </div>	$(2x + 1)(2x + 1)$ $4x^2 + 2x + 2x + 1$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $4x^2 + 4x + 1$ </div>

What did I do wrong in this example? Fix my mistake.

$$(x + 4)^2 = x^2 + 16$$

↑
Have to FOIL

$$(x + 4)(x + 4)$$

$$x^2 + 4x + 4x + 16$$

$x^2 + 8x + 16$