M8E: unit 5.4: Distributive property, FOIL, rectangle method

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3:42 PM

* 1. What is the Distributive Property?

-in BEDMAS, we do 'brackets' first.

ex: 3(2+5)

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BUT, what if we used the distributive property (terms *outside* the brackets, multiplied with the numbers/variables *inside* the brackets)?

so: 3(2+5)

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-the Distributive Property is useful with algebra because we often have letters of the alphabet instead of numbers.

ex: 3(x + 5) ex: 3(x - 5)

ex: -3(x+5) ex: -3(x-5)

= =

Try: 4(y+5) 4(y-5)

4(x-2y-5) -4(x2+3y-5) = =

* 1. What is FOIL?

-useful acronym when need to multiply binomials with binomials, but is basically distributive property:

Ex: (x-3)(x+5) F=first terms

O=outside terms

I=inside terms

L= last terms

Ex: expand: (2x-3)(4x+5)

expand: (2x-3)(4x-5)

Ex: expand: 2(2x-3)(4x+5)

Try and expand:

i) (y-2)(y+3) ii) (y-2)(y-7)

iii) (2y-3)(3y+4) iv) -2(2y-3)(3y-4)

-the acronym FOIL is less useful when we start multiplying with polynomials other than binomials:

ex: (x+2)(x2+3x-4)…we can use distributive property OR the rectangle method.

* 1. What is the 'rectangle method' (or 'box method' or 'generic rectangle method')

-sets up the question as a 'rectangle' or 'box'

Ex: (x+2)(x-3)

ex: (y-4)(y-5)

Ex: (x2+3x-4)(x-5)

Try:

i) (x+3)(x-4) ii) (2y+4)(3y-9)

iii) (2x2+3x-5)(3x2-4x+2)

-handout: 'math 9: foil' and 'why is a stick of gum like a sneeze?

-next day: more practice and quiz on unit 5.3 and 5.4