$\qquad$ Date

## Multiplying Binomials - Distributive Property

| Strategy | Example | How You Would Explain |
| :---: | :---: | :---: |
| FOIL | First: $x(x)=x^{2}$ Outside: $x(1)=x$ Inside: $9(x)=9 x$ Last: $9(1)=9$ $x^{2}+x+9 x+9$ <br> Like Terms $x^{2}+10 x+9$ | What steps would you tell someone to take? <br> Apply those steps to this example. $(4 x-1)(x+5)$ |
| Box <br> Method | $\begin{aligned} & (x-5)(3 x-9) \\ & 3 x+\begin{array}{\|c\|} \hline 3 x^{2}-15 x \\ -9-9 x+45 \\ -9 \end{array} \\ & 3 x^{2}-24 x+45 \end{aligned}$ | What steps would you tell someone to take? <br> Apply those steps to this example. $(4 x-1)(x+5)$ |
| "Rockets" | $\begin{gathered} (2 x-3)(x+4) \\ 2 x^{2}+8 x-3 x-12 \\ 2 x^{2}+5 x-12 \end{gathered}$ | What steps would you tell someone to take? <br> Apply those steps to this example. $(4 x-1)(x+5)$ |

## Multiplying Binomials by Trinomials and More!

- Box Method \& "Rockets" work best when one of your factors has more than two terms.

Ex. $\quad(3 x-1)\left(2 x^{2}+5 x-4\right)$

You Try $\quad(2 x+4)\left(3 x^{2}-x+6\right)$

Good Luck!

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\left(3 x^{2}+2 x-1\right)\left(5 x^{2}-4 x+2\right)
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