



Distributive properties

$$\begin{array}{ll} \text{ex: } 3(2x+5) & \text{ex: } 5x'(3x'+8) \\ = 6x + 15 & = 15x^2 + 40x \end{array}$$

FACTORED FORM

$$\begin{array}{l} \text{ex: } y = 2x(x-6) \\ y = 2x^2 - 12x \end{array}$$

} Expand to Standard

$$y = ax^2 + bx + c \leftarrow y\text{-int}$$

$$\begin{aligned}
 y &= (x-3)(2x+5) \\
 y &= 2x^2 + 5x - 6x - 15 \\
 y &= 2x^2 - 1x - 15
 \end{aligned}
 \quad \left| \begin{array}{c|ccccc}
 & F & O & I & L \\
 \text{I} & | & U & N & A \\
 R & | & T & N & S \\
 S & | & T & E & T \\
 T & | & E & R & T \\
 R & | & R & &
 \end{array} \right.$$

ex 5:

$$\begin{aligned}
 y &= -3(2x-3)(x+5) \\
 &\quad \text{Expand here first} \\
 y &= -3(2x^2 + 10x - 3x - 15) \\
 y &= -3(2x^2 + 7x - 15) \\
 y &= -6x^2 - 21x + 45
 \end{aligned}
 \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{Expand}$$

$$y = \frac{2}{5} (2x+6)(5-4x)$$