Math 105 TOPICS IN MATHEMATICS

REVIEW OF LECTURES – XXI (SUPPLEMENT)

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APPENDIX TO §21.   SOME EXPANSIONS.

1.   How do you expand

$$\left(x+2\right)\left(x+3\right)?$$

— You should use the formula:

Formula.

$$\boxed{\left(x+a\right)\left(x+b\right) \ = \ x^2 \ + \ \left(a+b\right)x \ + \ ab}\ .$$

   So, we can do

$$\left(x+2\right)\left(x+3\right)$$

as follows:

$$\left(x+2\right)\left(x+3\right) \ = \ x^2 \ + \ \left(2+3\right)x \ + \ 2\cdot 3$$

$$= \ x^2 \ + \ 5\,x \ + \ 6.$$

Exercise 1.   Expand each of

(1) $\left(x+1\right)\left(x+4\right).$ (2) $\left(x+6\right)\left(x+7\right).$ (3) $\left(x-2\right)\left(x+5\right).$

$\left[\ \underline{\textbf{Answers}}\ \right]$:   (1) $x^2 \ + \ 5\,x \ + \ 4.$ (2) $x^2 \ + \ 13\,x \ + \ 42.$

(3) $x^2 \ + \ 3\,x \ - \ 10.$