Complement: find the "NOT" of things

Use de Morgan's Laws

$$(abcde)' = a' + b' + c' + d' + e'$$

$$(a+b+c+d+e)' = a'b'c'd'e'$$

Eg: the complement of the sum is the product of the complements

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Example

$$[(A' + B)C']'$$

You are done when there are no double primes left

Example Find inverse of

$$F = A'B + AB'$$

$$F' = (A'B + AB')'$$

$$= (A + B')(A' + B) \quad \text{de Morgan}$$

$$= AA' + AB + B'A' + B'B \quad \text{first dist}$$

$$= 0 + AB + B'A' + 0 \quad \text{complementarlly}$$

$$= AB + A'B' \quad \text{operation with 0}$$
$$\text{(and commutative)}$$