

CLASS 8

MATHS

REVISION NOTES

Revision Notes: Class 8 Maths Chapter 6 We Distribute, Yet Things Multiply

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Class 8 Maths Chapter 6: We Distribute, Yet Things Multiply — Quick Revision Notes

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Distributive property: $a(b+c) = ab+ac$ — the basis for expanding any product of multi-term expressions, term by term (e.g. $(a+b)(c+d) = ac+ad+bc+bd$).

Identity 1A: $(a+b)^2 = a^2+2ab+b^2$.

Identity 1B: $(a-b)^2 = a^2-2ab+b^2$; and $(a-b)^2 = (b-a)^2$ always, since squaring removes the sign of the difference.

Identity 1C: $(a+b)(a-b) = a^2-b^2$ — the fastest identity for mentally multiplying two numbers equidistant from a round number, e.g. $397 \times 403 = 400^2 - 3^2$.

General difference-of-powers pattern: $(a-b)(a^n+a^{n-1}b+\dots+b^n) = a^{n+1}-b^{n+1}$.

Sum-of-squares identity: $2(a^2+b^2) = (a+b)^2+(a-b)^2$.

All identities hold universally — for counting numbers, negative integers, and fractions alike — because they follow from pure algebraic expansion, not from any assumption about sign or type.

Verifying a pattern with a few numbers is not a proof: claims about “always true” require a general algebraic derivation; a single counterexample is enough to disprove a claim.

Applications: quick mental squaring/multiplication of numbers near a round number, expressing areas of composite geometric figures, and proving number patterns (e.g. middle-square-minus-neighbour-product = 1 for any three consecutive numbers).