

The Distributive Property

Chapter 6: We Distribute, Yet Things Multiply · Topic 1

Key Concept

For example, calculating 7×102 becomes easier using distribution: $7 \times (100+2) = (7 \times 100) + (7 \times 2) = 700 + 14 = 714$, avoiding the need for more complex direct multiplication. This same property, applied in reverse, allows factorisation of algebraic expressions, making the distributive property a foundational bridge connecting basic arithmetic to algebra, used constantly throughout higher mathematics.

Quick Revision Notes

- Distributive property: $a \times (b+c) = axb + axc$.
- Example: $7 \times 102 = 7 \times (100+2) = 700+14 = 714$, simplifying mental calculation.
- The distributive property works similarly for subtraction: $a \times (b-c) = axb - axc$.
- This property connects arithmetic to algebra and is used in factorisation.

Practice Questions

- 1 Use the distributive property to calculate 6×98 .
- 2 Calculate 8×105 using the distributive property.
- 3 Verify that $4 \times (20-3)$ gives the same answer whether calculated directly or using distribution.