

The equals sign means balance

MODULE 10 · ALGEBRA — PATTERNS, RULES AND NUMBER SENTENCES

ALGEBRA

HOW TO ANSWER TODAY

- **Property names.** Order swaps $(a + b = b + a) \rightarrow$ commutative. Brackets move $((a+b)+c = a+(b+c)) \rightarrow$ associative. One spreads over two $(a(b+c) = ab+ac) \rightarrow$ distributive.
 $5 + 3 = 3 + 5 \rightarrow$ commutative · $2 \times (4 + 5) = 2 \times 4 + 2 \times 5 \rightarrow$ distributive

★ STRETCH PROBLEMS

- 1 On the school tour to the Cliffs of Moher, Cian writes $2 \times (10 + 10) = 2 \times 10 + 2 \times 10$ in his maths book to work out the cost of tickets. Which property of operations does his equation show: commutative, associative, or distributive?
- 2 On Monday morning, Mr Ó Sé writes this on the board while taking the roll in 4th class: $3 \times (12 + 8) = 3 \times 12 + 3 \times 8$. Which property of operations does this equation show: commutative, associative, or distributive?
- 3 At Granny's farm, Tadhg works out how many hooves there are on 5 pens, where each pen has 13 calves and 14 lambs. He writes it two ways: $5 \times (13 + 14) = 5 \times 13 + 5 \times 14$. Which property of operations does this show: commutative, associative, or distributive?
- 4 Cara is putting up bunting for World Book Day. Her teacher writes this equation on the whiteboard: $9 \times (9 + 14) = 9 \times 9 + 9 \times 14$. Which property of operations does it show: commutative, associative, or distributive?
- 5 Cian is packing lunches for a class picnic. He writes $7 \times (4 + 10) = 7 \times 4 + 7 \times 10$ to show two ways of counting the same sandwiches. Which property of operations does his equation show: commutative, associative, or distributive?