

Properties of operations and the distributive law

WHAT THIS LESSON TEACHES

Multiplying a number by a sum gives the same answer as multiplying by each part and adding: $a \times (b + c) = a \times b + a \times c$.

$$\rightarrow 6 \times 13 = 6 \times 10 + 6 \times 3$$

$$\rightarrow 8 \times 14 = 8 \times 10 + 8 \times 4$$

MODEL THIS ON THE BOARD

WORK OUT 5×23 USING THE DISTRIBUTIVE LAW

- ① Split the 23 into 20 and 3.
- ② Multiply each part: 5×20 and 5×3 .
- ③ Add the two products to find the total.

ANSWER KEY

Scaffold: visual check on the page

Q1: $4 \times 30 + 4 \times 8$

Q2: $8 \times 40 + 8 \times 1$

Q3: $2 \times 80 + 2 \times 1$

- a) Always — The distributive law always holds for multiplication over addition.
- b) Always — This is exactly the distributive property.
- c) Never — Any split into two addends works.
- d) Always — This is the distributive law.

EXTENSION SHEET · STRETCH ANSWERS

S1: distributive property

S2: distributive property

S3: distributive property

S4: associative property

S5: associative property