

Worked Solutions: The Lattice Multiplication Method

– Answer Key

Q1

(a) $52 \times 34 = 1768$ (b) $68 \times 47 = 3196$

Q2

(a) $34 \times 25 = 850$ (b) $243 \times 17 = 4131$

Q3

$1.7 \times 4.3 = 7.31$

Q4

(a) $0.6 \times 4.5 = 2.7$ (b) $12.4 \times 0.3 = 3.72$

Q5

(a) $6 \times 45 = 270$ (b) $0.06 \times 4.5 = 0.27$ (c) $60 \times 0.45 = 27$. The digits 27 stay the same; only the place value changes.

Q6

(a) $24 \times 3.65 = \pounds 87.60$ (b) $0.35 \times 16 = 5.60$, so 5.6 litres are lost.

Q7

(a) $1.45 \times 38 = \pounds 55.10$ (b) $4.8 \times 2.5 = 12 \text{ cm}^2$

Q8

(a) $73 \times 48 = 3504$ (b) $5.2 \times 3.6 = 18.72$ (c) $0.9 \times 0.7 = 0.63$ (d) $126 \times 34 = 4284$
(e) $8.4 \times 0.25 = 2.1$ (f) $1.06 \times 3.5 = 3.71$

Q9

(a) $40 \times 6 = 240$ and $7 \times 30 = 210$; both are whole numbers of tens, so both belong to the tens column. (b) Cells on the same lattice diagonal contribute to the same place value, so their digits are added; totals of 10 or more carry into the next diagonal.

Q10

(a) 0.48×0.25 must be less than 1, so 1200 is impossible. (b) $0.48 \times 0.25 = 0.12$

Q11

$3 \times 4 = 12$ single-digit multiplications.

Q12

Example: $0.4 \times 0.9 = 0.36$.

Q13

Zainab is partly right: no carrying is needed while filling the cells, but carrying is used when adding along the diagonals.