

Answer Key — 3-Digit × 1-Digit Multiplication

Year 4 Mathematics · Number and algebra · WA4MNAMU2

Section A — Fluency (16 marks, 1 mark each)

1. 1,170
2. 1,248
3. 846
4. 468
5. 867
6. 870
7. 756
8. 1,498
9. 810
10. 1,012
11. 981
12. 792
13. 2,496
14. 825
15. 915
16. 698

Section B — Core (21 marks)

1. $234 \times 5 = 1,170$ items. [2 marks working, 1 mark correct answer]
2. (a) $312 \times 4 = 1,248$ seats. (b) $1,248 - 1,000 = 248$ seats unsold. [2 marks part (a), 2 marks part (b)]
3. $423 \times 2 = 846$ units. [2 marks working, 1 mark correct answer]
4. (a) $162 \times 5 = 810$ loaves. (b) $1,000 - 810 = 190$ more loaves needed. [2 marks part (a), 2 marks part (b)]
5. $253 \times 4 = 1,012$ chairs. [2 marks working, 1 mark correct answer]
6. (a) $327 \times 3 = 981$ cans. (b) $981 \div 100 = 9$ full boxes, with 81 cans left over. [2 marks part (a), 2 marks part (b)]

Section C — Reasoning (9 marks) — sample responses, award marks for valid reasoning

1. A 3-digit number has more digits being multiplied, so there are more chances for a column's product to reach 10 or more and need carrying, compared to a 2-digit number with fewer columns. [2 marks]
2. $234 = 200 + 30 + 4$, so $234 \times 5 = (200 \times 5) + (30 \times 5) + (4 \times 5) = 1,000 + 150 + 20 = 1,170$, which splits the multiplication by place value and combines the parts, giving the same answer as multiplying 234 by 5 directly. [2 marks]
3. Starting with the ones digit keeps the method consistent, since any carry from the ones column must be added into the tens column, and any carry from the tens column into the hundreds column. [2 marks]
4. True: the smallest 3-digit number times the smallest 1-digit number ($100 \times 1 = 100$) gives a 3-digit answer, and the largest possible product, $999 \times 9 = 8,991$, is still only a 4-digit number. [3 marks]

Section D — Challenge (7 marks)

3-Digit $\times$ 1-Digit Multiplication · WA4MNAMU2

1. $848 \div 4 = 212$. [2 marks]
2. $111 \times 3 = 333$, $222 \times 3 = 666$, $333 \times 3 = 999$ — all three work with no regrouping, since each digit (1, 2 or 3) multiplied by 3 stays below 10. [2 marks]
3. Any two valid pairs, e.g. $243 \times 4 = 972$ and $162 \times 6 = 972$. [2 marks correct pairs, 1 mark for checking]