

Grade 5 · Multiplying Multi-Digit Whole Numbers · Test Answer Key

Common Core 5.NBT.B.5 · mathovore.fr

This answer key gives a worked solution and a scoring guide for each question. Award points for correct steps as well as correct answers, and use follow-through credit when an early error is carried correctly into later parts. The total is 20 points.

Grade 5 Common Core: 5.NBT.B.5

Question 1: Multiply with one-digit factors (2 points)

(a) $428 \times 6 = 2,568$.

(b) $3,152 \times 4 = 12,608$.

(a) 2,568. (b) 12,608.

Scoring: 1 point for each correct product.

Question 2: Multiply two-digit and three-digit numbers (2 points)

(a) $47 \times 6 = 282$, $47 \times 30 = 1,410$, and $282 + 1,410 = 1,692$.

(b) $605 \times 2 = 1,210$, $605 \times 40 = 24,200$, and $1,210 + 24,200 = 25,410$.

(a) 1,692. (b) 25,410.

Scoring: 1 point for each correct product.

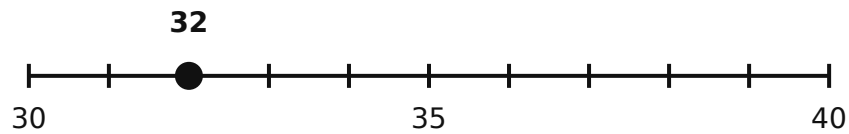
Question 3: Estimate and calculate (2 points)

(a) 487 is close to 500 and 32 is close to 30, so $500 \times 30 = 15,000$.

(b) $487 \times 2 = 974$, $487 \times 30 = 14,610$, and $974 + 14,610 = 15,584$.

(a) About 15,000. (b) 15,584.

Scoring: 1 point for a reasonable estimate (any estimate from 14,000 to 16,500 earns the point); 1 point for the exact product.



32 is close to 30.

Question 4: Complete the area model (2 points)

(a) $30 \times 20 = 600$, $4 \times 20 = 80$, $30 \times 5 = 150$, $4 \times 5 = 20$.

(b) $600 + 80 + 150 + 20 = 850$.

(a) 600, 80, 150, 20. (b) 850.

Scoring: 1 point for all four partial products (half credit is not given); 1 point for the correct sum.

	30	4
20	600	80
5	150	20

Total: 850

Completed area model.

Question 5: Four digits by two digits (2 points)

$$2,746 \times 8 = 21,968$$

$$2,746 \times 50 = 137,300$$

$$21,968 + 137,300 = 159,268$$

159,268

Scoring: 1 point for both correct partial products; 1 point for the correct sum.

Question 6: Check Ava's work (2 points)

Ava did not shift the second row. She multiplied 63 by 4 instead of by 40, so the row should be $63 \times 40 = 2,520$.

Correct product: $504 + 2,520 = 3,024$.

The mistake is the unshifted second row; the correct product is 3,024.

Scoring: 1 point for naming the missing shift (placeholder zero); 1 point for 3,024.

$$\begin{array}{r} 63 \\ \times 48 \\ \hline 504 \\ 2520 \\ \hline 3024 \end{array}$$

Correct work.

Question 7: School store pencils (3 points)

(a) $144 \times 5 = 720$, $144 \times 40 = 5,760$, and $720 + 5,760 = 6,480$.

(b) $6,480 - 1,250 = 5,230$.

(a) 6,480 pencils. (b) 5,230 pencils.

Scoring: (a) 1 point for a correct method, 1 point for 6,480; (b) 1 point for 5,230 (follow-through credit if part (a) was wrong but the subtraction is right).

Question 8: Three digits by three digits (2 points)

$436 \times 7 = 3,052$, $436 \times 0 = 0$, $436 \times 200 = 87,200$.

$3,052 + 87,200 = 90,252$.

90,252

Scoring: 1 point for the partial products (7 and 200 rows); 1 point for the correct sum.

Question 9: Stadium seats and tickets (3 points)

(a) $275 \times 8 = 2,200$, $275 \times 30 = 8,250$, and $2,200 + 8,250 = 10,450$.

(b) $10,450 \times 12 = 125,400$, because $10,450 \times 2 = 20,900$ and $10,450 \times 10 = 104,500$.

(a) 10,450 seats. (b) \$125,400.

Scoring: (a) 1 point for a correct method, 1 point for 10,450; (b) 1 point for \$125,400 (follow-through allowed).

Total
20 points