Multiplying Multi-Digit Whole Numbers

Grade 5 Math • Section 2.1

Name: _____	Date: _____	Score: _____ / 17

Quick Review and Helpful Hints

Standard algorithm: Multiply the top number by each digit of the bottom number (starting from the ones). Write each partial product, shifting one place left for each new digit. Add the partial products.

Estimate first to check reasonableness. $347 \times 26 \approx 350 \times 25 = 8{,}750$.

Remember to include a zero placeholder when multiplying by the tens digit, hundreds digit, and so on.

Example: Find 254×36.

Multiply $254 \times 6 = 1{,}524$ (ones partial product). Then $254 \times 30 = 7{,}620$ (tens partial product). Add: $1{,}524 + 7{,}620 = 9{,}144$.

Answer: $9{,}144$

Practice Problems

Multiply. Show your work if needed.

1. $346 \times 7 =$ _____	**6.** $408 \times 23 =$ _____	**11.** $904 \times 67 =$ _____
2. $582 \times 9 =$ _____	**7.** $671 \times 34 =$ _____	**12.** $2{,}048 \times 53 =$ _____
3. $47 \times 36 =$ _____	**8.** $519 \times 48 =$ _____	**13.** $375 \times 120 =$ _____
4. $85 \times 52 =$ _____	**9.** $1{,}235 \times 6 =$ _____	**14.** $486 \times 39 =$ _____
5. $234 \times 15 =$ _____	**10.** $763 \times 45 =$ _____	**15.** $1{,}507 \times 24 =$ _____

Word Problems

16. A school orders 48 boxes of pencils. Each box contains 144 pencils. How many pencils are ordered in total?

_____

17. A movie theater has 26 rows of seats with 38 seats in each row. How many seats are there in all?

_____

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Answer Keys

1. $2,422$
2. $5,238$
3. $1,692$
4. $4,420$
5. $3,510$
6. $9,384$
7. $22,814$
8. $24,912$
9. $7,410$
10. $34,335$
11. $60,568$
12. $108,544$
13. $45,000$
14. $18,954$
15. $36,168$
16. $6{,}912$
17. 988

Step-by-Step Explanations

1. Start with the main idea. For multiplying multi-digit whole numbers, multiply the factors: $346 \times 7 = 2,422$. Estimate first if you can; it helps you notice when a product is much too small or too large.

2. Keep the work tidy. For multiplying multi-digit whole numbers, multiply the factors: $582 \times 9 = 5,238$. Each partial product has a place-value job, so line the digits up carefully.

3. Look at what the numbers mean. For multiplying multi-digit whole numbers, multiply the factors: $47 \times 36 = 1,692$. Multiplication answers grow quickly, so commas are helpful for reading the final number.

4. Use the setup first. For multiplying multi-digit whole numbers, multiply the factors: $85 \times 52 = 4,420$. Estimate first if you can; it helps you notice when a product is much too small or too large.

5. Check the size of the answer. For multiplying multi-digit whole numbers, multiply the factors: $234 \times 15 = 3,510$. Each partial product has a place-value job, so line the digits up carefully.

6. Match the operation to the words. For multiplying multi-digit whole numbers, multiply the factors: $408 \times 23 = 9,384$. Multiplication answers grow quickly, so commas are helpful for reading the final number.

7. Write the important values first. For multiplying multi-digit whole numbers, multiply the factors: $671 \times 34 = 22,814$. Estimate first if you can; it helps you notice when a product is much too small or too large.

8. Follow the pattern carefully. For multiplying multi-digit whole numbers, multiply the factors: $519 \times 48 = 24,912$. Each partial product has a place-value job, so line the digits up carefully.

9. Start with the main idea. For multiplying multi-digit whole numbers, multiply the factors: $1,235 \times 6 = 7,410$. Multiplication answers grow quickly, so commas are helpful for reading the final number.

10. Keep the work tidy. For multiplying multi-digit whole numbers, multiply the factors: $763 \times 45 = 34,335$. Estimate first if you can; it helps you notice when a product is much too small or too large.

11. Look at what the numbers mean. For multiplying multi-digit whole numbers, multiply the factors: $904 \times 67 = 60,568$. Each partial product has a place-value job, so line the digits up carefully.

12. Use the setup first. For multiplying multi-digit whole numbers, multiply the factors: $2,048 \times 53 = 108,544$. Multiplication answers grow quickly, so commas are helpful for reading the final number.

13. Check the size of the answer. For multiplying multi-digit whole numbers, multiply the factors: $375 \times 120 = 45,000$. Estimate first if you can; it helps you notice when a product is much too small or too large.

14. Match the operation to the words. For multiplying multi-digit whole numbers, multiply the factors: $486 \times 39 = 18,954$. Each partial product has a place-value job, so line the digits up carefully.

15. Write the important values first. For multiplying multi-digit whole numbers, multiply the factors: $1,507 \times 24 = 36,168$. Multiplication answers grow quickly, so commas are helpful for reading the final number.

16. Follow the pattern carefully. For multiplying multi-digit whole numbers, multiply boxes by pencils per box: $48 \times 144 = 6{,}912$. Estimate first if you can; it helps you notice when a product is much too small or too large.

17. Start with the main idea. For multiplying multi-digit whole numbers, multiply rows by seats per row: $26 \times 38 = 988$. Each partial product has a place-value job, so line the digits up carefully.

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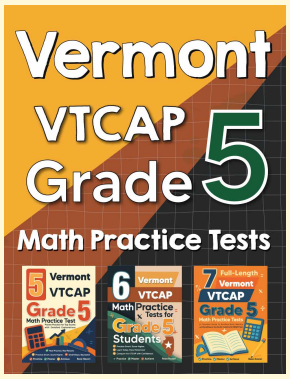

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