Unit 3 · Multiplication Strategies and Multi-Digit Multiplication Cheat Sheet

Unit 3 focus: multiplicative comparison, multiples of 10 and multiplying by one-digit numbers

1 Big Idea

Multiplication compares amounts (“times as many”) and joins equal groups. Break big numbers into parts you can multiply.

2 Important Vocabulary

times as many	A way to compare two amounts by multiplying.	35 is 5 times as many as 7
factor	A number that is multiplied.	In 6 × 7 = 42, the factors are 6 and 7
product	The answer to a multiplication problem.	42 is the product of 6 × 7
partial products	The smaller products you add to find a whole product.	6 × 47 = 240 + 42

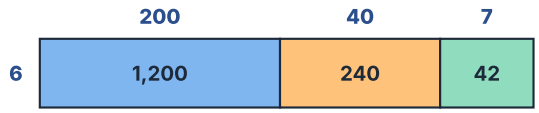
3 How It Works

Multiply 6 × 247 with partial products.

Example: 247 = 200 + 40 + 7
6 × 200 1,200
6 × 40 240
6 × 7 42
Add: 1,200 + 240 + 42

Answer: 1,482

4 Visual Model



The area model for 6 × 247. Add the parts: 1,200 + 240 + 42 = 1,482.

5 ★ Remember This · Watch Out!

★ Remember this

- To multiply by a multiple of 10, use the basic fact, then the place value: 6 × 700 = 42 hundreds.
- “Times as many” means multiply. “More than” means add.

⚠ Watch out!

- **Count the zeros:** 30 × 50 = 1,500, not 150
- **Use place values:** the 4 in 247 is 40, so 6 × 40, not 6 × 4

6 Try It!

1. Ben has 9 cards. Ana has 4 times as many. How many does Ana have?
   Answer: 36
2. 8 × 356 = ?
   Answer: 2,848

Answers are printed upside down. Turn the page to check!

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More practice: two-digit by two-digit multiplication and estimating products

1 Big Idea

To multiply two 2-digit numbers, break both apart. There are four partial products.

2 Important Vocabulary

area model	A rectangle split into parts that shows partial products.	A 6 by 47 rectangle split into 6 × 40 and 6 × 7
distributive property	You can break a factor apart, multiply each part, and add.	6 × 47 = 6 × 40 + 6 × 7
estimate	Find a product that is close to the exact product.	6 × 482 is about 6 × 500 = 3,000
multiple of 10	A number you get when you multiply a whole number by 10.	30, 70 and 240 are multiples of 10

3 How It Works

Multiply 34 × 26.

Example: 34 = 30 + 4 and 26 = 20 + 6
30 × 20 600
30 × 6 180
4 × 20 80
4 × 6 24

Answer: 600 + 180 + 80 + 24 = 884

4 Visual Model

	20	6
30	600	180
4	80	24

The four boxes are the four partial products of 34 × 26.

5 ★ Remember This · Watch Out!

★ Remember this

- Estimate first: 34 × 26 is about 30 × 30 = 900.
- Multiplying by tens? Write the zero, then multiply.

⚠ Watch out!

- **Four parts, not two:** do not forget tens × ones and ones × tens
- **Check with an estimate:** 884 is close to 900

6 Try It!

1. 45 × 23 = ?
   Answer: 1,035
2. Estimate 7 × 589 by rounding 589 to the nearest hundred.
   Answer: 4,200

Answers are printed upside down. Turn the page to check!