

Name _____

Multiply Using Expanded Form

I Can use expanded form to multiply a multi-digit number by a 1 digit number.

Florida's B.E.S.T.

- Number Sense & Operations 4.NSO.2.2, 4.NSO.2.5, 4.NSO.2.1
- Mathematical Thinking & Reasoning MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1



UNLOCK the Problem Real World

Example 1 Use expanded form.

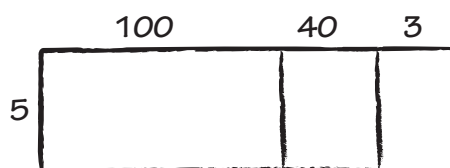
Multiply. 5×143

$$5 \times 143 = 5 \times (\underline{\quad} + \underline{\quad} + \underline{\quad}) \quad \text{Write 143 in expanded form.}$$

$$= (5 \times 100) + (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad}) \quad \text{Use the Distributive Property.}$$

SHADE THE MODEL

STEP 1



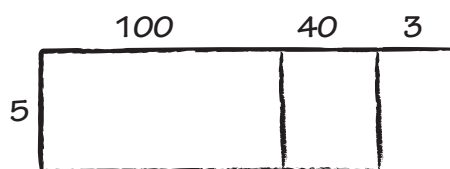
THINK AND RECORD

Multiply the hundreds.

$$(5 \times 100) + (5 \times 40) + (5 \times 3)$$

$$\underline{\quad} + (5 \times 40) + (5 \times 3)$$

STEP 2

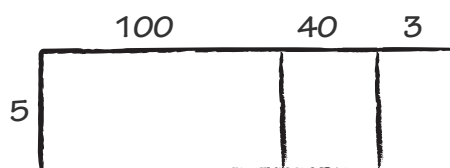


Multiply the tens.

$$(5 \times 100) + (5 \times 40) + (5 \times 3)$$

$$500 + \underline{\quad} + (5 \times 3)$$

STEP 3

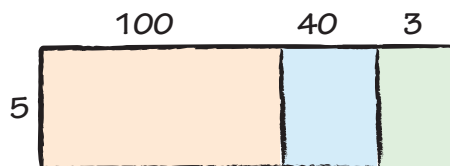


Multiply the ones.

$$(5 \times 100) + (5 \times 40) + (5 \times 3)$$

$$500 + 200 + \underline{\quad}$$

STEP 4



Add the partial products.

$$\begin{array}{r} 500 \\ 200 \\ + 15 \\ \hline \end{array}$$

So, $5 \times 143 = \underline{\quad}$.

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

How do you know your answer is reasonable?

Example 2 Use expanded form.

The gift shop at the animal park orders 3 boxes of toy animals. Each box has 1,250 toy animals. How many toy animals does the shop order?

Multiply. $3 \times 1,250$

STEP 1

Write 1,250 in expanded form. Use the Distributive Property.

$$3 \times 1,250 = 3 \times (\underline{\quad} + \underline{\quad} + \underline{\quad})$$

$$= (3 \times 1,000) + (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$$

So, the shop ordered animals.



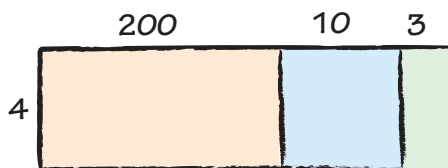
STEP 2

Add the partial products.

Share and Show

Math Board

1. Find 4×213 . Use expanded form.



$$4 \times 213 = \underline{\quad} \times (\underline{\quad} + \underline{\quad} + \underline{\quad})$$

$$= (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad}) \quad \text{Use the Distributive Property.}$$

$$= \underline{\quad} + \underline{\quad} + \underline{\quad}$$

$$= \underline{\quad}$$

Math Talk

MTR 3.1 Complete tasks with mathematical fluency.

How did using the Distributive Property make finding the product easier?

Record the product. Use expanded form to help.

✓ 2. $4 \times 59 = \underline{\quad}$

✓ 3. $3 \times 288 = \underline{\quad}$

On Your Own**Record the product. Use expanded form to help.**

4. $4 \times 21 =$ _____

5. $6 \times 35 =$ _____

6. A hotel has 128 rooms on each floor. There are 4 floors in all. If 334 of the rooms in the hotel have been cleaned, how many rooms still need to be cleaned?

7. Ben wants to buy 2 blue sweaters for \$19 each and 3 brown sweaters for \$44 each. How much will Ben spend on the five sweaters?

8. A jeweler has 36 inches of silver chain. She needs 5 times that much to make some necklaces and 3 times that amount to make some bracelets. How much silver chain does the jeweler need to make her necklaces and bracelets?

9. Naveena walks her dog 3 times a day. Each time she walks her dog, she walks 1,760 yards. How many yards does she walk her dog in 3 days?

10. **MTR** What expression could you write to show how to multiply 9×856 using place value and expanded form?

11. Lupita bought 4 packages of tacks. There are 48 tacks in a package. She used 160 of the tacks to put up posters. How many tacks does she have left? Explain.

Show the Math

Demonstrate Your Thinking

Problem Solving · Applications

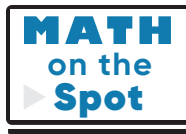
Use the table for 12–13.

Sacco Nursery Plant Sale Prices per Tree		
Tree	Regular Price	Discounted Price (4 or more)
Flowering Cherry	\$59	\$51
Italian Cypress	\$79	\$67
Muskogee Crape Myrtle	\$39	\$34
Royal Empress	\$29	\$25



12. What is the total cost of 3 Italian cypress trees?

13. Tanya says that the difference in the cost of 4 flowering cherry trees and 4 Muskogee crape myrtles is \$80. Is she correct? Explain.



14.  **WRITE** *Math* What is the greatest possible product of a 2-digit number and a 1-digit number? Explain how you know.

15. Multiply 5×381 using place value and expanded form. Select a number from each box to complete the expression.

$$(5 \times \boxed{\begin{smallmatrix} 30 \\ 300 \end{smallmatrix}}) + (5 \times \boxed{\begin{smallmatrix} 8 \\ 80 \end{smallmatrix}}) + (5 \times \boxed{\begin{smallmatrix} 1 \\ 10 \end{smallmatrix}})$$

Show the Math

Demonstrate Your Thinking

Multiply Using Expanded Form

Go Online

Interactive Examples

Record the product. Use expanded form to help.

1. $7 \times 14 =$ 98

$$\begin{aligned} 7 \times 14 &= 7 \times (10 + 4) \\ &= (7 \times 10) + (7 \times 4) \\ &= 70 + 28 \\ &= 98 \end{aligned}$$

2. $8 \times 43 =$ _____

3. $6 \times 532 =$ _____

4. $5 \times 923 =$ _____

Problem Solving



5. The fourth-grade students at Riverside School are going on a field trip. There are 68 students on each of the 4 buses. How many students are going on the field trip?

6. There are 5,280 feet in one mile. Fatima likes to walk 5 miles each week for exercise. How many feet does Fatima walk each week?

7. **WRITE** *Math* Explain how you can find 3×584 using expanded form.

Lesson Check

8. Write an expression that shows how to multiply 7×256 using expanded form and the Distributive Property.
9. Sue uses the expression $(8 \times 3,000) + (8 \times 200) + (8 \times 9)$ to help solve a multiplication problem. What is Sue's multiplication problem?

Spiral Review

10. What is another way to write 9×200 ?
11. What is the value of the digit 4 in 46,000?

12. Zaide bought 6 packages of napkins for his restaurant. There were 200 napkins in each package. How many napkins did Zaide buy?
13. List these numbers in order from **least** to **greatest**.
8,251; 8,125; 8,512
