LESSON MAKER PRO

Split and Multiply

Turn a hard product into two easier ones.

GRADE 4 · 4.NOS.C.7.c

4.NOS.C.7.c "Use properties of operations (e.g., to solve 8 × 7, think of (5 × 7 + (3 × 7)) to multiply."

NAME _____ DATE _____

THE BIG IDEA

You can split one factor into two easier parts. Multiply the other factor by each part, then add the two products. The sum is the answer to the original multiplication problem.

WORKED EXAMPLE

Find 7 × 16 by splitting 16.

1. Split 16 into 10 + 6.
2. Multiply: 7 × 10 = 70.
3. Multiply: 7 × 6 = 42.
4. Add: 70 + 42 = 112.

Answer: 7 × 16 = 112

PRACTICE 6 problems

1 Use 10 + 2 to find 8 × 12. Show the two products and their sum.

ANSWER _____

2 Use 10 + 4 to find 9 × 14. Show the two products and their sum.

ANSWER _____

3 Find 4 × 23. Split 23 into tens and ones. Show your work.

ANSWER _____

4 Find 5 × 18. Choose a way to split 18. Show your work.

ANSWER _____

5 Fill in both blanks: 12 × 15 = (10 × 15) + (2 × 15) = 150 + ___ = ___.

ANSWER _____

6 Find 6 × 24 by adding (6 × 20) + (6 × 4). Show the two products and their sum.

ANSWER _____

APPLY IT Show your work

1 For a class art project, each of 8 friends gets 25 stickers. How many stickers do they get altogether? Show how you split 25 to multiply.

WORK SPACE

ANSWER _____

2 A game has 9 levels. You earn 22 coins on each level. How many coins do you earn after all 9 levels? Show how you split 22 to multiply.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find 14 × 26 in two ways. Each time, split 26 into two different positive whole numbers and show your products. In one sentence, explain why both ways give the same answer.

WORK SPACE AND ANSWER

ANSWER KEY

Split and Multiply

GRADE 4 · 4.NOS.C.7.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use 10 + 2 to find 8 × 12. Show the two products and their sum.	**8 × 10 + 8 × 2 = 80 + 16 = 96**
2	Use 10 + 4 to find 9 × 14. Show the two products and their sum.	**9 × 10 + 9 × 4 = 90 + 36 = 126**
3	Find 4 × 23. Split 23 into tens and ones. Show your work.	**4 × 20 + 4 × 3 = 80 + 12 = 92**
4	Find 5 × 18. Choose a way to split 18. Show your work.	**5 × 10 + 5 × 8 = 50 + 40 = 90**
5	Fill in both blanks: 12 × 15 = (10 × 15) + (2 × 15) = 150 + ___ = ___.	**30, 180**
6	Find 6 × 24 by adding (6 × 20) + (6 × 4). Show the two products and their sum.	**120 + 24 = 144**

PART 2 · APPLY IT

1. **200 stickers** Split 25 into 20 + 5. Then 8 × 20 + 8 × 5 = 160 + 40 = 200.
2. **198 coins** Split 22 into 20 + 2. Then 9 × 20 + 9 × 2 = 180 + 18 = 198.

CHALLENGE

14 × (20 + 6) = 280 + 84 = 364. 14 × (25 + 1) = 350 + 14 = 364. Both splits equal 26, so both calculations give the same product.

Accept any correct split and matching partial products when a problem does not name the split. In the challenge, the two splits must be different and both must add to 26.