LESSON MAKER PRO

Multiply Smarter

Use easy numbers to find products.

GRADE 5 · 5.NOS.B.4.b

5.NOS.B.4.b "Use computational strategies (e.g., partial products, doubling and halving) efficiently to multiply."

NAME _____ DATE _____

TWO USEFUL STRATEGIES

You can split one factor into easy parts, multiply each part, and add the partial products. You can also halve one factor and double the other. The product stays the same.

WORKED EXAMPLE

Find 26 × 13 using partial products.

1. Split 13 into 10 + 3.
2. Multiply: 26 × 10 = 260 and 26 × 3 = 78.
3. Add: 260 + 78 = 338.

Answer: 338

PRACTICE 6 problems

1 Use partial products to find 23 × 14.

ANSWER _____

2 Use partial products to find 27 × 16.

ANSWER _____

3 Use doubling and halving to find 48 × 25.

ANSWER _____

4 Use doubling and halving to find 44 × 50.

ANSWER _____

5 Use partial products to find 32 × 15.

ANSWER _____

6 Use doubling and halving to find 125 × 24.

ANSWER _____

APPLY IT Show your work

1 Maya earns 28 points for each level she finishes in a game. She finishes 15 levels. How many points does she earn? Show how you multiply.

WORK SPACE

ANSWER _____

2 A gaming club buys 25 packs of trading cards. Each pack has 64 cards. How many cards does the club buy? Show how you multiply.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find 36 × 45 in two ways. Use partial products once and doubling and halving once. Explain why both ways give the same answer.

WORK SPACE AND ANSWER

ANSWER KEY

Multiply Smarter

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use partial products to find 23 × 14.	**322**
2	Use partial products to find 27 × 16.	**432**
3	Use doubling and halving to find 48 × 25.	**1,200**
4	Use doubling and halving to find 44 × 50.	**2,200**
5	Use partial products to find 32 × 15.	**480**
6	Use doubling and halving to find 125 × 24.	**3,000**

PART 2 · APPLY IT

1. **420 points** Split 15 into 10 + 5. Then 28 × 10 + 28 × 5 = 280 + 140 = 420.
2. **1,600 cards** Double 25 and halve 64 to get 50 × 32. Repeat to get 100 × 16 = 1,600.

CHALLENGE

Partial products: 36 × 40 + 36 × 5 = 1,440 + 180 = 1,620. Doubling and halving: 36 × 45 = 18 × 90 = 1,620. Both ways give the same product because splitting a factor or halving one factor while doubling the other does not change the product.

Accept any correct split for partial products and either order of doubling and halving. For the challenge, both methods must reach 1,620 and include an explanation of why the product stays the same.