LESSON MAKER PRO

Multiply Smart

Use properties to make facts easier.

GRADE 3 · 3.PAR.3.3

3.PAR.3.3 "Apply properties of operations (i.e., commutative property, associative property, distributive property) to multiply and divide within 100."

NAME _____ DATE _____

USE WHAT YOU KNOW

The commutative property lets you switch factors, and the associative property lets you regroup three factors without changing the product. The distributive property lets you break one factor into easier parts, and a related multiplication fact can help you divide.

WORKED EXAMPLE

Find 7×6 by breaking apart 6.

1. Write 6 as 5 + 1.
2. Multiply: $7 \times 5 + 7 \times 1 = 35 + 7$.
3. Add: $35 + 7 = 42$.

Answer: 42

PRACTICE 6 problems

1 $3 \times 8 = 8 \times$ ___

ANSWER _____

2 $(2 \times 4) \times 3 = 2 \times (4 \times 3) =$ ___

ANSWER _____

3 $9 \times 4 = 9 \times (2 + 2) =$ ___

ANSWER _____

4 $8 \times 8 = (8 \times 4) + (8 \times 4) =$ ___

ANSWER _____

5 Use a related multiplication fact. $36 \div 9 =$ ___

ANSWER _____

6 Use a related multiplication fact. $64 \div 8 =$ ___

ANSWER _____

APPLY IT Show your work

1 Mila is setting up a game. She puts 8 rows of 9 tokens on the board. She breaks each row into 4 tokens and 5 tokens to count quickly. How many tokens are on the board?

WORK SPACE

ANSWER _____

2 A club has 72 trading cards to put equally into 8 prize packs. They split 72 into 40 and 32 before sharing. How many cards go in each pack?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find 8 × 9 in two different ways using properties. Write an equation for each way, then explain how both ways have the same total.

WORK SPACE AND ANSWER

ANSWER KEY

Multiply Smart

GRADE 3 · 3.PAR.3.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	3 × 8 = 8 × ___	**3**
2	(2 × 4) × 3 = 2 × (4 × 3) = ___	**24**
3	9 × 4 = 9 × (2 + 2) = ___	**36**
4	8 × 8 = (8 × 4) + (8 × 4) = ___	**64**
5	Use a related multiplication fact. 36 ÷ 9 = ___	**4**
6	Use a related multiplication fact. 64 ÷ 8 = ___	**8**

PART 2 · APPLY IT

1. **72 tokens** Use the distributive property: 8 × (4 + 5) = (8 × 4) + (8 × 5) = 32 + 40 = 72.
2. **9 cards** Divide each part by 8: 40 ÷ 8 + 32 ÷ 8 = 5 + 4 = 9.

CHALLENGE

8 × 9 = 8 × (4 + 5) = 32 + 40 = 72. 8 × 9 = 9 × 8 = 9 × (3 + 5) = 27 + 45 = 72. Both ways show the same factors or equal parts, so both totals are 72.

Accept any correct equivalent equations that use switching, regrouping, or breaking apart factors. For the challenge, accept two valid property-based methods and a statement that both give 72.