LESSON MAKER PRO

Break Apart Math

Use parts to multiply and divide.

GRADE 3 · 3.OA.B.5

3.OA.B.5 "Develop and apply properties of operations as strategies to multiply and divide."

NAME _____ DATE _____

THE BIG IDEA

To multiply, break one number into parts. Multiply each part by the other number, then add the products. To divide, split the total into parts you can divide, then add the quotients.

WORKED EXAMPLE

Find 9 x 9 by breaking apart one 9.

1. 9 x 9 = (5 + 4) x 9
2. 5 x 9 = 45 and 4 x 9 = 36
3. 45 + 36 = 81

Answer: 81

PRACTICE 6 problems

1 Break apart 8 as 6 + 2. Find 8 x 7.

ANSWER _____

2 Break apart 8 as 6 + 2. Find 3 x 8.

ANSWER _____

3 Break apart 6 as 3 + 3. Find 6 x 7.

ANSWER _____

4 Break apart 10 as 7 + 3. Find 7 x 10.

ANSWER _____

5 Break apart 48 as 30 + 18. Find 48 / 6.

ANSWER _____

6 Break apart 42 as 21 + 21. Find 42 / 7.

ANSWER _____

APPLY IT Show your work

1 At a game club, 6 teams each earn 7 points for puzzles and 3 points for trivia. How many points do the teams earn altogether? Show how you break apart the points.

WORK SPACE

ANSWER _____

2 A class shares 64 game tokens equally among 8 players. Split 64 into 40 + 24 to make the division easier. How many tokens does each player get?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find 7 x 8 in two ways. First, break apart 7. Then, break apart 8. Write a number sentence for each way.

WORK SPACE AND ANSWER

ANSWER KEY

Break Apart Math

GRADE 3 · 3.OA.B.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Break apart 8 as 6 + 2. Find 8 x 7.	**56**
2	Break apart 8 as 6 + 2. Find 3 x 8.	**24**
3	Break apart 6 as 3 + 3. Find 6 x 7.	**42**
4	Break apart 10 as 7 + 3. Find 7 x 10.	**70**
5	Break apart 48 as 30 + 18. Find 48 / 6.	**8**
6	Break apart 42 as 21 + 21. Find 42 / 7.	**6**

PART 2 · APPLY IT

1. **60 points** Each team earns 7 + 3 points. Multiply each part by 6, then add: 6 x 7 + 6 x 3 = 42 + 18 = 60.
2. **8 tokens** Divide each part by 8, then add: 40 / 8 + 24 / 8 = 5 + 3 = 8.

CHALLENGE

7 x 8 = (1 + 6) x 8 = 8 + 48 = 56; 7 x 8 = 7 x (6 + 2) = 42 + 14 = 56.

Accept any correct split that shows the parts multiplied or divided separately and then added. For the challenge, both number sentences must equal 56.