LESSON MAKER PRO

Build the Product

Use area models and place value to multiply.

GRADE 4 · 4.NBT.5c

4.NBT.5c "Use strategies based on place value and the properties of multiplication to: Use appropriate models to explain the calculation, such as by using equations, rectangular arrays, and/or area models."

NAME _____ DATE _____

SPLIT AND ADD

Split each factor into tens and ones. In an area model, each small rectangle shows one partial product. Add the partial products to find the total.

WORKED EXAMPLE

Use the area model to find the total area.

	20	3
30	600	90
4	80	12

1. 30 x 20 = 600 and 30 x 3 = 90.
2. 4 x 20 = 80 and 4 x 3 = 12.
3. 600 + 90 + 80 + 12 = 782.

Answer: 782 square units

PRACTICE 6 problems

1 Find the total area shown. Write an addition equation using all four smaller areas.

	10	6
20		
7		

ANSWER _____

_____

2 What multiplication equation does this model show? Find its product.

	10	2
40	400	80
6	60	12

ANSWER _____

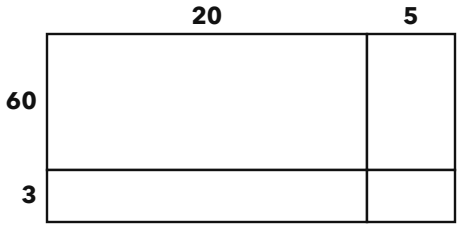
_____

3 Find 58 x 14. Write the four partial products and their sum.

ANSWER _____

_____

4 Which small area in the model is greatest? Find the total area.



ANSWER _____

_____

5 Find 39 x 18 by writing 18 as 20 - 2. Write the subtraction equation.

ANSWER _____

_____

6 Find 74 x 13 by splitting 13 into 10 + 3. Write the addition equation.

ANSWER _____

_____

APPLY IT Show your work

1 An art club has 17 packs of glow stickers. Each pack has 26 stickers. How many stickers does the club have? Show an equation that splits one factor.

WORK SPACE

ANSWER _____

2 A gaming club has 14 packs of cards with 28 cards in each pack. How many cards does the club have? Show an equation that splits one factor.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student calculates 68 x 15 as 600 + 80 + 30 + 40 = 750. Which partial product is wrong? Give the correct product and explain the mistake.

WORK SPACE AND ANSWER

ANSWER KEY

Build the Product

GRADE 4 · 4.NBT.5c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the total area shown. Write an addition equation using all four smaller areas.	**200 + 120 + 70 + 42 = 432 square units**
2	What multiplication equation does this model show? Find its product.	**46 x 12 = 552**
3	Find 58 x 14. Write the four partial products and their sum.	**500 + 200 + 80 + 32 = 812**
4	Which small area in the model is greatest? Find the total area.	**60 x 20 = 1,200 square units is greatest. The total is 1,575 square units.**
5	Find 39 x 18 by writing 18 as 20 - 2. Write the subtraction equation.	**39 x 20 - 39 x 2 = 780 - 78 = 702**
6	Find 74 x 13 by splitting 13 into 10 + 3. Write the addition equation.	**74 x 10 + 74 x 3 = 740 + 222 = 962**

PART 2 · APPLY IT

1. **442 stickers** Split 26 into 20 + 6. Then 17 x 20 + 17 x 6 = 340 + 102 = 442.
2. **392 cards** Split 14 into 10 + 4. Then 28 x 10 + 28 x 4 = 280 + 112 = 392.

CHALLENGE

The student used 30 for 60 x 5, but 60 x 5 = 300. The correct product is 600 + 80 + 300 + 40 = 1,020.

Accept partial products in any order. For the word problems, accept an equation that correctly splits either factor.