LESSON MAKER PRO

Pack It Up

Use area models to divide and find remainders.

GRADE 5 · 5.NBT.B.7

5.NBT.B.7 "Use strategies based on place value, properties of operations, and/or the relationship between multiplication and division to find whole-number quotients and remainders with up to four-digit dividends and two-digit divisors..."

NAME _____ DATE _____

DIVIDE IN PARTS

An area model can show a divisor multiplied by parts of a quotient. Add the smaller products, then subtract from the dividend. The amount left is the remainder, and it must be smaller than the divisor.

WORKED EXAMPLE

Use the area model to find 1,112 ÷ 27. What are the quotient and remainder?

	40	1
20	800	20
7	280	7

1. 27 × 40 = 1,080
2. 27 × 1 = 27
3. 1,080 + 27 = 1,107
4. 1,112 - 1,107 = 5

Answer: 41 R5

PRACTICE 4 problems

1 756 ÷ 18 = ___

ANSWER _____

2 936 ÷ 26 = ___

ANSWER _____

3 Find the quotient and remainder: 1,037 ÷ 32.

ANSWER _____

4 Find the quotient and remainder: 2,319 ÷ 45.

ANSWER _____

APPLY IT Show your work

1 A shop has 1,263 game cards. The model shows full packs of 28 cards. How many full packs can the shop make, and how many cards are left?

	40	5
20	800	100
8	320	40

ANSWER _____

2 A club has 875 stickers. The model shows complete prize sets of 36 stickers. How many sets can the club make, and how many stickers are left?

	20	4
30	600	120
6	120	24

ANSWER _____

CHALLENGE One step up

A student writes 2,065 ÷ 39 = 51 R76. Explain the mistake. Give the correct quotient and remainder using an equation.

WORK SPACE AND ANSWER

ANSWER KEY

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	756 ÷ 18 = ___	**42**
2	936 ÷ 26 = ___	**36**
3	Find the quotient and remainder: 1,037 ÷ 32.	**32 R13**
4	Find the quotient and remainder: 2,319 ÷ 45.	**51 R24**

PART 2 · APPLY IT

1. **45 full packs, 3 cards left** The model shows 28 × 45 = 1,260 cards in packs. Then 1,263 - 1,260 = 3 cards left.
2. **24 sets, 11 stickers left** The model shows 36 × 24 = 864 stickers in sets. Then 875 - 864 = 11 stickers left.

CHALLENGE

76 is too large to be a remainder because it is greater than 39. The correct answer is 52 R37 because 39 × 52 + 37 = 2,065.

Accept equivalent quotient-and-remainder notation. In the challenge, the explanation must state that a remainder must be less than the divisor.