LESSON MAKER PRO

Divide and Discover

Use partial quotients and area models to divide.

GRADE 5 · 5.NOS.B.5

5.NOS.B.5 "Divide multi-digit whole numbers with up to four-digit dividends and two-digit divisors. Apply estimation strategies to estimate quotients. Use partial quotients efficiently to divide..."

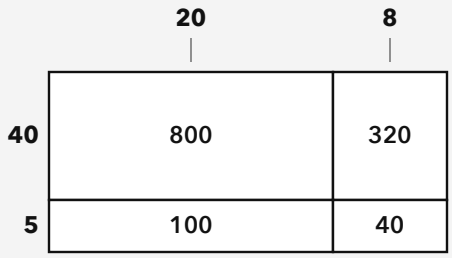
NAME _____ DATE _____

THE BIG IDEA

Estimate a quotient first to check that your answer is reasonable. To divide, subtract easy multiples of the divisor from the dividend, then add those partial quotients. In an area model, each smaller rectangle shows one part of the total.

WORKED EXAMPLE

What division equation does the area model show?



1. 20 + 8 = 28
2. 40 × 28 = 1,120
3. 5 × 28 = 140
4. 1,120 + 140 = 1,260

Answer: 1,260 / 28 = 45

PRACTICE 4 problems

1 Divide: 864 / 24 = ___

ANSWER _____

2 Estimate, then divide: 1,456 / 26 = ___

ANSWER _____

3 Divide: 2,376 / 36 = ___

ANSWER _____

4 Divide: 3,276 / 42 = ___

ANSWER _____

APPLY IT Show your work

1 A game club shares 592 tokens equally. The top side of the model shows the number of teams. How many tokens does each team get?

	10	6
30	300	180
7	70	42

ANSWER _____

2 A craft club has 1,248 beads for 32 bracelets. Each bracelet uses the same number of beads. How many beads go on each bracelet?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Write the division equation shown by the area model. Explain how the model proves your quotient.

	30	2
60	1800	120
9	270	18

WORK SPACE AND ANSWER

ANSWER KEY

Divide and Discover

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Divide: 864 / 24 = ___	**36**
2	Estimate, then divide: 1,456 / 26 = ___	**Estimate: about 50. Exact quotient: 56.**
3	Divide: 2,376 / 36 = ___	**66**
4	Divide: 3,276 / 42 = ___	**78**

PART 2 · APPLY IT

1. **37 tokens** The top side shows 10 + 6 = 16 teams. Since 16 × 37 = 592, each team gets 37 tokens.
2. **39 beads** Divide 1,248 by 32. Since 32 × 39 = 1,248, each bracelet uses 39 beads.

CHALLENGE

2,208 / 32 = 69. The model shows 32 × 60 = 1,920 and 32 × 9 = 288; together, these make 2,208.

Accept other reasonable estimates for problem 2 if the student shows compatible numbers. Accept equivalent partial-quotient explanations for the challenge.