LESSON MAKER PRO

Quotient Quest

Estimate, divide, and check whole-number quotients.

GRADE 4 · 4.CE.2.i

4.CE.2.i "Apply strategies (e.g., rounding, compatible numbers, place value) and algorithms, including the standard algorithm, to estimate and determine the quotient of two whole numbers, given a one-digit divisor and a two- or three-digit dividend..."

NAME _____ DATE _____

ESTIMATE THEN DIVIDE

Use compatible numbers to make a quick estimate before you divide. Then use the standard algorithm, dividing from left to right. A remainder must be less than the divisor.

WORKED EXAMPLE

Estimate and solve: 864 / 4

1. Estimate: 800 / 4 = 200.
2. 4 goes into 8 two times.
3. Bring down 6. 4 goes into 6 one time, with 2 left over.
4. Bring down 4. 4 goes into 24 six times.

Answer: Estimate: 200; 864 / 4 = 216

PRACTICE 6 problems

1 Estimate, then solve: 372 / 3

ANSWER _____

2 Estimate, then solve: 548 / 4

ANSWER _____

3 Estimate, then solve: 695 / 5

ANSWER _____

4 Estimate, then solve: 827 / 6

ANSWER _____

5 Estimate, then solve: 263 / 7

ANSWER _____

6 Estimate, then solve: 918 / 8

ANSWER _____

APPLY IT Show your work

1 The school art club has 286 stickers to share equally among 4 tables. First estimate how many stickers each table will get. Then find how many stickers each table gets and how many are left over.

WORK SPACE

ANSWER _____

2 A game club has 735 tokens. They put 6 tokens in each prize bag. First estimate how many full prize bags they can make. Then find the number of full bags and leftover tokens.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Mia says 754 / 6 = 125 R4 because 6 x 125 = 750. Is Mia correct? Explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Quotient Quest

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate, then solve: 372 / 3	**Estimate: 120; 372 / 3 = 124**
2	Estimate, then solve: 548 / 4	**Estimate: 140; 548 / 4 = 137**
3	Estimate, then solve: 695 / 5	**Estimate: 140; 695 / 5 = 139**
4	Estimate, then solve: 827 / 6	**Estimate: 140; 827 / 6 = 137 R5**
5	Estimate, then solve: 263 / 7	**Estimate: 40; 263 / 7 = 37 R4**
6	Estimate, then solve: 918 / 8	**Estimate: 110; 918 / 8 = 114 R6**

PART 2 · APPLY IT

1. **Estimate: about 70 stickers per table; 71 stickers per table, 2 stickers left over.** Use 280 / 4 = 70 for an estimate. Then divide 286 by 4 to get 71 R2.
2. **Estimate: about 120 bags; 122 full bags, 3 tokens left over.** Use 720 / 6 = 120 for an estimate. Then divide 735 by 6 to get 122 R3.

CHALLENGE

Yes. 6 x 125 = 750, and 754 - 750 = 4. Since 4 is less than 6, 754 / 6 = 125 R4.

Accept reasonable compatible-number estimates that are close to the exact quotient. For word problems, students should name both the equal groups and the leftover amount.