LESSON MAKER PRO

Quotient Quest

Estimate first, then divide with decimals.

GRADE 5 · 5.CE.3.c

5.CE.3.c "Estimate and determine the quotient of two numbers using strategies and algorithms, including the standard algorithm, in which:* quotients do not exceed four digits with or without a decimal point; quotients may include whole numbers..."

NAME _____ DATE _____

PLAN, THEN DIVIDE

First, estimate with nearby numbers that divide easily. If the divisor has one decimal place, multiply both numbers by 10 to make the divisor a whole number. Then use long division and place the decimal point in the quotient above the decimal point in the dividend.

WORKED EXAMPLE

Estimate and find 7.56 / 0.6.

1. Estimate: 7.2 / 0.6 = 12.
2. Multiply both numbers by 10: 75.6 / 6.
3. Divide: 75.6 / 6 = 12.6.

Answer: 12.6

PRACTICE 6 problems

1 Estimate, then find the exact quotient: 864 / 4

ANSWER _____

2 Estimate, then find the exact quotient: 9.36 / 3

ANSWER _____

3 Estimate, then find the exact quotient: 5.4 / 0.6

ANSWER _____

4 Estimate, then find the exact quotient: 72.8 / 8

ANSWER _____

5 Estimate, then find the exact quotient: 6.2 / 4

ANSWER _____

6 Estimate, then find the exact quotient: 486.4 / 8

ANSWER _____

APPLY IT Show your work

1 An art club has 12.6 meters of colored tape. It shares the tape equally among 4 teams. How many meters of tape does each team get? Estimate first, then find the exact answer.

WORK SPACE

ANSWER _____

2 A game designer has 18.9 minutes of music. Each game level needs 0.7 minute of music. How many levels can use the music? Estimate first, then find the exact answer.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student says that 9.12 / 0.8 = 1.14. Is the student correct? Estimate, find the quotient, and explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Quotient Quest

GRADE 5 · 5.CE.3.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate, then find the exact quotient: 864 / 4	**Estimate: 200; quotient: 216**
2	Estimate, then find the exact quotient: 9.36 / 3	**Estimate: 3; quotient: 3.12**
3	Estimate, then find the exact quotient: 5.4 / 0.6	**Estimate: 10; quotient: 9**
4	Estimate, then find the exact quotient: 72.8 / 8	**Estimate: 9; quotient: 9.1**
5	Estimate, then find the exact quotient: 6.2 / 4	**Estimate: 2; quotient: 1.55**
6	Estimate, then find the exact quotient: 486.4 / 8	**Estimate: 60; quotient: 60.8**

PART 2 · APPLY IT

1. **Estimate: about 3 meters; exact answer: 3.15 meters per team** Use 12 / 4 = 3 for an estimate. Divide 12.6 by 4 to get 3.15.
2. **Estimate: about 30 levels; exact answer: 27 levels** Use 21 / 0.7 = 30 for an estimate. Multiply both numbers by 10, then divide 189 by 7 to get 27.

CHALLENGE

The student is not correct. Estimate: about 12. 9.12 / 0.8 = 91.2 / 8 = 11.4, so 1.14 is too small.

Accept reasonable estimates based on compatible numbers. Accept equivalent decimal forms with trailing zeros, such as 9.0 for 9.