LESSON MAKER PRO

Quotient Quest

Estimate first, then divide with care.

GRADE 5 · 5.CE.3.c.iii

5.CE.3.c.iii "Estimate and determine the quotient of two numbers using strategies and algorithms, including the standard algorithm, in which:* divisors are limited to a single digit whole number or a decimal expressed as tenths; and"

NAME _____ DATE _____

DIVIDE WITH DECIMALS

First, make a quick estimate using nearby compatible numbers. When the divisor is a decimal in tenths, multiply both numbers by 10 so the divisor becomes a whole number, then use long division.

WORKED EXAMPLE

Estimate, then find 72.8 / .4.

1. Estimate: 72.8 is close to 72, and 72 / .4 = 180.
2. Multiply both numbers by 10: 72.8 / .4 = 728 / 4.
3. Divide: 728 / 4 = 182.

Answer: Estimate: about 180. Exact quotient: 182.

PRACTICE 6 problems

1 Use 460 / 7 to estimate, then find 455 / 7.

ANSWER _____

2 Use 72 / 6 to estimate, then find 73.2 / 6.

ANSWER _____

3 Use 49 / .9 to estimate, then find 48.6 / .9.

ANSWER _____

4 Use 16 / .5 to estimate, then find 15.75 / .5.

ANSWER _____

5 Use 91 / 7 to estimate, then find 92.4 / 7.

ANSWER _____

6 Use 7.2 / .8 to estimate, then find 7.28 / .8.

ANSWER _____

APPLY IT Show your work

1 A student has 18.6 ounces of bead mix. Each bracelet kit needs .3 ounce of beads. About how many kits can the student make? How many kits can the student make exactly?

WORK SPACE

ANSWER _____

2 A game club earns 156 tickets and shares them equally among 6 players. About how many tickets does each player get? How many tickets does each player get exactly?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Mira says that 48.36 / .4 = 12.09 because she divided 48.36 by 4. Is Mira correct? Explain how to find the quotient, then give the exact quotient.

WORK SPACE AND ANSWER

ANSWER KEY # Quotient Quest

GRADE 5 · 5.CE.3.c.iii

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use 460 / 7 to estimate, then find 455 / 7.	**Estimate: about 66. Exact quotient: 65.**
2	Use 72 / 6 to estimate, then find 73.2 / 6.	**Estimate: about 12. Exact quotient: 12.2.**
3	Use 49 / .9 to estimate, then find 48.6 / .9.	**Estimate: about 54. Exact quotient: 54.**
4	Use 16 / .5 to estimate, then find 15.75 / .5.	**Estimate: about 32. Exact quotient: 31.5.**
5	Use 91 / 7 to estimate, then find 92.4 / 7.	**Estimate: about 13. Exact quotient: 13.2.**
6	Use 7.2 / .8 to estimate, then find 7.28 / .8.	**Estimate: about 9. Exact quotient: 9.1.**

PART 2 · APPLY IT

1. **Estimate: about 60 kits. Exact answer: 62 kits.** Use 18 / .3 = 60 for an estimate. Multiply both numbers in 18.6 / .3 by 10, then divide 186 / 3 = 62.
2. **Estimate: about 25 tickets. Exact answer: 26 tickets.** Use 150 / 6 = 25 for an estimate. Divide 156 / 6 = 26.

CHALLENGE

No. Multiply both numbers by 10: 48.36 / .4 = 483.6 / 4 = 120.9.

Accept reasonable estimates based on the compatible numbers named in each problem. For decimal divisors, accept any correct method that multiplies both the dividend and divisor by 10 before dividing.