

Divide It Out

Estimate first, then divide with decimals.

GRADE 5 • 5.CE.3.c.iv

5.CE.3.c.iv "Estimate and determine the quotient of two numbers using strategies and algorithms, including the standard algorithm, in which: no more than one additional zero will need to be annexed."

NAME _____

DATE _____

ESTIMATE AND DIVIDE

Estimate first with nearby numbers that divide evenly. In long division, place the decimal point in the quotient directly above the decimal point in the dividend. If you still have a remainder after using all the digits, annex one zero and continue dividing.

WORKED EXAMPLE

Estimate and find $13 \div 2$.

1. Estimate: $12 \div 2 = 6$.
2. Divide 13 by 2. Write 6 and leave a remainder of 1.
3. Annex 0, making 10 tenths.
4. Divide 10 tenths by 2. Write 5 tenths.

Answer: Estimate: 6; Quotient: 6.5

PRACTICE 6 problems

1 Estimate using $30 \div 6$. Then find $32.4 \div 6$.

ANSWER _____

2 Estimate using $45 \div 9$. Then find $45 \div 9$.

ANSWER _____

3 Estimate using $24 \div 4$. Then find $26 \div 4$.

ANSWER _____

4 Estimate using $60 \div 12$. Then find $63.6 \div 12$.

ANSWER _____

5 Estimate using $7 \div 7$. Then find $8.4 \div 7$.

ANSWER _____

6 Estimate using $90 \div 15$. Then find $93 \div 15$.

ANSWER _____

APPLY IT Show your work

- 1** A robotics team earns 57.6 points and shares the points equally among 9 teams. Estimate using $54 \div 9$. Then find how many points each team gets.

WORK SPACE

ANSWER _____

- 2** At a game design club, 78 bonus points are shared equally among 12 players. Estimate using $72 \div 12$. Then find how many bonus points each player gets.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A school store collected \$157.50 from selling 15 identical water bottles. Estimate using $\$150 \div 15$. Then use standard division to find the price of one bottle.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Estimate using $30 \div 6$. Then find $32.4 \div 6$.	Estimate: 5; Quotient: 5.4
2	Estimate using $45 \div 9$. Then find $45 \div 9$.	Estimate: 5; Quotient: 5
3	Estimate using $24 \div 4$. Then find $26 \div 4$.	Estimate: 6; Quotient: 6.5
4	Estimate using $60 \div 12$. Then find $63.6 \div 12$.	Estimate: 5; Quotient: 5.3
5	Estimate using $7 \div 7$. Then find $8.4 \div 7$.	Estimate: 1; Quotient: 1.2
6	Estimate using $90 \div 15$. Then find $93 \div 15$.	Estimate: 6; Quotient: 6.2

PART 2 • APPLY IT

1. **Estimate: 6 points; Exact quotient: 6.4 points per team** Use $54 \div 9$ to estimate 6. Divide 57.6 by 9 to get 6.4.
2. **Estimate: 6 points; Exact quotient: 6.5 points per player** Use $72 \div 12$ to estimate 6. Divide 78 by 12, annexing one zero after the remainder, to get 6.5.

CHALLENGE

Estimate: \$10; Exact price: \$10.50 per bottle

Accept reasonable compatible-number estimates close to the listed estimates. Accept \$10.5 or \$10.50 for the challenge, as both show the same value.