

Decimal Place Power

Estimate and solve decimal sums and differences.

GRADE 4 • 4.CE.4.a

4.CE.4.a "Apply strategies (e.g., rounding to the nearest whole number, using compatible numbers) and algorithms, including the standard algorithm, to estimate and determine the sum or difference of two decimals through the thousandths..."

NAME _____

DATE _____

LINE UP PLACES

Line up decimal points so the same place values are in columns. Add or subtract from right to left, regroup when needed, and bring the decimal point straight down. To estimate, round each decimal to the nearest whole number before solving.

WORKED EXAMPLE

Find $18.746 + 6.289$.

1. Line up the decimal points.
2. Add the thousandths: $6 + 9 = 15$. Write 5 and carry 1.
3. Add the other columns from right to left, regrouping as needed.
4. Bring the decimal point straight down.

Answer: 25.035

PRACTICE 6 problems

- 1** Round each number to the nearest whole number. Estimate, then find the exact sum:
 $42.583 + 17.246$

ANSWER _____

- 2** Round each number to the nearest whole number. Estimate, then find the exact difference: $91.004 - 38.679$

ANSWER _____

- 3** Find the exact sum: $305.712 + 48.098$

ANSWER _____

- 4** Find the exact difference: $700.500 - 264.738$

ANSWER _____

- 5** Find the exact sum: $9.875 + 0.126$

ANSWER _____

- 6** Round each number to the nearest whole number. Estimate, then find the exact difference: $1,204.006 - 87.419$

ANSWER _____

APPLY IT Show your work

1

At robotics club, a battery-powered car traveled 14.728 meters in its first test and 8.596 meters in its second test. Estimate the total distance by rounding to the nearest whole number. Then find the exact total distance.

WORK SPACE

ANSWER _____

2

A maker club has 52.300 meters of filament for a 3-D printer. The club uses 18.745 meters. Estimate how much filament is left by rounding to the nearest whole number. Then find the exact amount left.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Round each number to the nearest whole number. Estimate, then find the exact difference: $2,000.000 - 743.658$. In one or two sentences, explain how you regrouped across the zeros.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Round each number to the nearest whole number. Estimate, then find the exact sum: $42.583 + 17.246$	Estimate: 60; exact sum: 59.829
2	Round each number to the nearest whole number. Estimate, then find the exact difference: $91.004 - 38.679$	Estimate: 52; exact difference: 52.325
3	Find the exact sum: $305.712 + 48.098$	353.810
4	Find the exact difference: $700.500 - 264.738$	435.762
5	Find the exact sum: $9.875 + 0.126$	10.001
6	Round each number to the nearest whole number. Estimate, then find the exact difference: $1,204.006 - 87.419$	Estimate: 1,117; exact difference: 1,116.587

PART 2 • APPLY IT

- Estimate: 24 meters; exact total: 23.324 meters** Round 14.728 to 15 and 8.596 to 9 for an estimate of 24. Add the decimals to find 23.324 meters.
- Estimate: 33 meters; exact amount left: 33.555 meters** Round 52.300 to 52 and 18.745 to 19 for an estimate of 33. Subtract to find 33.555 meters left.

CHALLENGE

Estimate: 1,256; exact difference: 1,256.342. I regrouped across the zeros so there were enough tenths, hundredths, and thousandths to subtract.

Accept equivalent decimal forms with or without trailing zeros, such as 353.81 for 353.810. For estimates, accept only the stated nearest-whole-number results.