LESSON MAKER PRO

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

Estimate, then find 8.746 + 6.289.

1. Round 8.746 to 9 and 6.289 to 6; the estimate is 15.
2. Line up the decimal points.
3. Add the thousandths: 6 + 9 = 15. Write 5 and carry 1.
4. Add the other columns from right to left, regrouping as needed.
5. Bring the decimal point straight down.

Answer: Estimate: 15; exact sum: 15.035

PRACTICE 6 problems

1 Round each number to the nearest whole number. Estimate, then find the exact sum: 4.583 + 1.246

ANSWER _____

2 Round each number to the nearest whole number. Estimate, then find the exact difference: 9.004 - 3.679

ANSWER _____

3 Find the exact sum: 3.712 + 4.098

ANSWER _____

4 Find the exact difference: 7.500 - 2.738

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: 4.006 - 0.419

ANSWER _____

APPLY IT Show your work

1 At robotics club, a battery-powered car traveled 4.728 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 5.300 meters of filament for a 3-D printer. The club uses 1.745 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

Round each number to the nearest whole number. Estimate, then find the exact difference: 8.000 - 3.658. In one or two sentences, explain how you regrouped across the zeros.

WORK SPACE AND ANSWER

ANSWER KEY

Decimal Place Power

GRADE 4 · 4.CE.4.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Round each number to the nearest whole number. Estimate, then find the exact sum: 4.583 + 1.246	**Estimate: 6; exact sum: 5.829**
2	Round each number to the nearest whole number. Estimate, then find the exact difference: 9.004 - 3.679	**Estimate: 5; exact difference: 5.325**
3	Find the exact sum: 3.712 + 4.098	**7.810**
4	Find the exact difference: 7.500 - 2.738	**4.762**
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: 4.006 - 0.419	**Estimate: 4; exact difference: 3.587**

PART 2 · APPLY IT

1. **Estimate: 14 meters; exact total: 13.324 meters** Round 4.728 to 5 and 8.596 to 9 for an estimate of 14. Add the decimals: 4.728 + 8.596 = 13.324 meters.
2. **Estimate: 3 meters; exact amount left: 3.555 meters** Round 5.300 to 5 and 1.745 to 2 for an estimate of 3. Subtract: 5.300 − 1.745 = 3.555 meters left.

CHALLENGE

Estimate: 4; exact difference: 4.342. Regroup 8.000 as 7 ones, 9 tenths, 9 hundredths, and 10 thousandths before subtracting. This keeps the original value while allowing subtraction in every decimal column.

Accept equivalent decimal forms with or without trailing zeros, such as 7.81 for 7.810. For estimates, accept only the stated nearest-whole-number results.