LESSON MAKER PRO

Decimal Place Power

Estimate and solve decimal sums and differences.

GRADE 4 · 4.CE.4.a.i

4.CE.4.a.i "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 THE PLACES

Line up the decimal points before you add or subtract. Work from right to left, regroup when needed. To estimate, round each decimal to the nearest whole number first.

WORKED EXAMPLE

Estimate and find the exact sum: 0.374 + 0.526

1. Round: 0.374 is about 0 and 0.526 is about 1, so the estimate is 1.
2. Thousandths: 4 + 6 = 10. Write 0 and carry 1 to the hundredths.
3. Hundredths: 7 + 2 + 1 = 10. Write 0 and carry 1 to the tenths.
4. Tenths: 3 + 5 + 1 = 9. The sum is 0.900.

Answer: Estimate: 1; exact sum: 0.900

PRACTICE 6 problems

1 Estimate by rounding to the nearest whole number. Then find the exact sum: 4.286 + 2.517

ANSWER _____

2 Estimate by rounding to the nearest whole number. Then find the exact difference: 8.004 - 3.276

ANSWER _____

3 Estimate by rounding to the nearest whole number. Then find the exact sum: 1.935 + 6.408

ANSWER _____

4 Estimate by rounding to the nearest whole number. Then find the exact difference: 7.500 - 2.862

ANSWER _____

5 Estimate by rounding to the nearest whole number. Then find the exact sum: 0.649 + 3.275

ANSWER _____

6 Estimate by rounding to the nearest whole number. Then find the exact difference: 9.120 - 4.683

ANSWER _____

APPLY IT Show your work

1 Jada tracks her fun-run distance. She runs 1.875 km on Monday and 0.624 km on Tuesday. Estimate by rounding to the nearest whole kilometer, then find her exact total distance.

WORK SPACE

ANSWER _____

2 A model rocket kit has 5.000 m of string. Eli uses 1.786 m for a rocket. Estimate by rounding to the nearest whole meter, then find how much string remains.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A robot-building club has 6.958 m of wire. The club uses 2.487 m. Use compatible numbers to estimate the wire left. Then find the exact difference. Write one sentence explaining why your estimate is reasonable.

_____

_____

ANSWER KEY

Decimal Place Power

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate by rounding to the nearest whole number. Then find the exact sum: 4.286 + 2.517	**Estimate: 7; exact sum: 6.803**
2	Estimate by rounding to the nearest whole number. Then find the exact difference: 8.004 - 3.276	**Estimate: 5; exact difference: 4.728**
3	Estimate by rounding to the nearest whole number. Then find the exact sum: 1.935 + 6.408	**Estimate: 8; exact sum: 8.343**
4	Estimate by rounding to the nearest whole number. Then find the exact difference: 7.500 - 2.862	**Estimate: 5; exact difference: 4.638**
5	Estimate by rounding to the nearest whole number. Then find the exact sum: 0.649 + 3.275	**Estimate: 4; exact sum: 3.924**
6	Estimate by rounding to the nearest whole number. Then find the exact difference: 9.120 - 4.683	**Estimate: 4; exact difference: 4.437**

PART 2 · APPLY IT

1. **Estimate: 3 km; exact total: 2.499 km** Round 1.875 to 2 and 0.624 to 1 for an estimate of 3 km. Add 1.875 + 0.624 to get 2.499 km.
2. **Estimate: 3 m; exact amount remaining: 3.214 m** Round 5.000 to 5 and 1.786 to 2 for an estimate of 3 m. Subtract 1.786 from 5.000 to get 3.214 m.

CHALLENGE

Estimate: 4.5 m. Exact difference: 4.471 m. I used 7 and 2.5 because they are close to the original numbers and are easy to subtract.

Accept equivalent decimal forms with or without trailing zeros, such as 0.9 for 0.900. For the challenge, accept another reasonable compatible-number estimate close to 4.5 m if the exact difference is 4.471 m.