

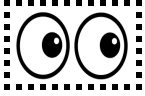
Notes and Handouts

Name: _____

Unit: *Number and Operations*
Decimal Computation

Math6
Period: _____

Adding and Subtracting Decimal Numbers



Reminder: Combining numbers or taking a number away from another number requires an understanding of the **value** of each number.



Objective: You will be reminded of how to add and subtract decimal numbers of varying lengths.

Combining two quantities or taking a specific quantity away from another is a foundational skill of any growing mathematician. With **whole numbers**, we stack each number above the other while lining up the right side of the number. We then either add or subtract each place value in both numbers.

(different lengths)

ex. 1) $3,753 + 231$

$$\begin{array}{r} 3\ 7\ 5\ 3 \\ (+) \underline{0\ 2\ 3\ 1} \\ \hline 3\ 9\ 8\ 4 \end{array}$$

(same lengths)

ex 2) $569 - 255$

$$\begin{array}{r} 5\ 6\ 9 \\ (-) \underline{2\ 5\ 5} \\ \hline 3\ 1\ 4 \end{array}$$

* Notice how each number is lined up on the right. This allows us to add and subtract whole numbers of varying lengths. In the addition problem, 3 ones combined with 1 one is 4 ones. 5 tens combined with 3 tens is 8 tens, or eighty. 7 hundreds combined with 2 hundreds is 9 hundred. 3 thousands combined with 0 thousands is 3 thousand. This gives us a final answer of 3 thousand, nine hundred eighty-four (3,984). We could use the same kind of thinking to explain the subtraction problem in example 2. BUT: Will this method work for adding and subtracting decimal numbers? Can we line up the right side of two decimal numbers of varying lengths and get the correct sum or difference of those two numbers? Try it here with these two examples:

ex. 3) $23.3 + 5.25$

ex 4) $38.45 - 2.1$

What do YOU think? Does it work? Yes or No ?

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In previous examples we have seen that lining up the right side of two decimal numbers does not get the correct **sum** or **difference**. Why not?



Can you think of an example where lining up the right side of the decimal numbers **would** work when adding or subtracting?



Here is what we find out:



Steps: Adding or Subtracting Decimal Numbers

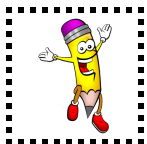
1. Stack the decimal numbers by lining up the decimal points.

**Annexing zeros can help fill in empty place values.

2. Add or Subtract each number that is above/below one another. (according to **place value**)
3. Bring the decimal point straight down into your answer.

$$\begin{array}{r} 65.3 + 4.37 \\ \hline 69.67 \end{array}$$

$$\begin{array}{r} 829.48 - 23.2 \\ \hline 806.28 \end{array}$$



Examples:

ex. 5) $56.8 + 633.14$

ex. 6) $395.7 - 24.5$

ex. 7) $1.342 + 124.2$

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YOU GOT THIS: -- Try these problems - check your answers as you go

- 1) $345.7 + 4.21$
- 2) $83.85 - 2.14$
- 3) $1435.2 + 51.03$
- 4) $307.96 - 101.4$
- 5) $1.83 + 0.15$

-- Don't forget, you may need to carry or borrow when adding and subtracting numbers.

- 6) $126.43 + 89.18$
- 7) $66.39 - 3.85$
- 8) $57.84 + 195.43$
- 9) $207.73 - 125.36$
- 10) $10034.2 + 6748.$

-- Decimal Master

- 11) $599.85 + 756.97$
- 12) $8234.4 - 618.85$
- 13) $2.78 + 84.65 + 906.85$
- 14) $450.02 - 284.89$
- 15) $9979.62 + 990.49$



Wrap It Up!

Think of one example that proves why lining up decimal numbers on the right when adding or subtracting doesn't always work. Explain your reasoning.