

Name:

Addition and Subtraction of Whole Numbers

The hypothetical student-work below is similar to that of a group of urban Latino first-graders who demonstrated advanced skills with two digit addition and subtraction problems.

student 1:

$$\begin{array}{r} 27 \\ +38 \\ \hline 65 \end{array}$$

student 2:

$$\begin{array}{r} 27 \\ +38 \\ 1 \\ \hline 65 \end{array}$$

student 3:

$$\begin{array}{r} 27 \\ +38 \\ \hline 65 \end{array}$$

student 4:

$$\begin{array}{r} 5 \\ 62 \\ -45 \\ \hline 17 \end{array}$$

1. Look at the strategies used by students 1, 2, and 3. What is each student's method? Does it work for all problems of this type?
2. Show how students 1, 2, and 3 each would compute $36 + 27$.
3. Show how student 4 might compute $43 - 18$.
4. What are the advantages and disadvantages of using the above students' strategies (instead of standard algorithms) to add and subtract whole numbers?

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5. Solve the following problem by **drawing base ten pieces**. That is, **don't write any numbers** or write any computations to solve this problem.

Mary went on a family vacation to the beach. Mary collected 125 seashells. She gave 68 stickers to her sister Haley. How many seashells does Mary have left?

6. Now solve $125-68$ by writing this problem vertically and using the standard subtraction algorithm.

7. Now make a drawing with base ten pieces showing how the standard algorithm that you wrote out in #4 works. How does this drawing compare to your drawing in #5? (If it is the same drawing, explain how your drawing illustrates your work in #6.)