What’s different?

Typical Algebra assignments give students plenty of practice solving problems, but they usually don’t include practice with mathematical argumentation.

**AlgebraByExample** gives students practice solving problems, and practice modeling, analyzing, critiquing, and articulating mathematical arguments.

**AlgebraByExample** assignments contain items that are displayed as pairs. Below you can see there is an incorrect example shown for students to analyze. To the right is a similar problem for students to complete, by applying what they have just explained. Students also have the opportunity to analyze examples that are correct.

**FROM ASSIGNMENT 8.1 - ADDING AND SUBTRACTING POLYNOMIALS**

**SET 2:** Find the difference for each of the polynomials.

Alta tried to subtract these polynomials but didn’t do it correctly. Here is her work:

\[
(3x^2 - 4x + 8) - (x^2 - 4)
\]

\[
(3x^2 - 4x + 8) - (x^2 - 4)
\]

- Why should the sign be positive?

In the step marked with an arrow, Alta did not change the signs correctly. Which term does not have the correct sign attached to it?

**Your Turn:**

\[
(3x^2 + 4x - 8) - (x^2 - 4x)
\]

Over 40 Assignments Now Available!

- Support Common Core Practice and Content Standards
- Demonstrated substantial impact in a randomized trial
- Has largest impact for low achieving students
- Were designed by teams of researchers and practitioners
- Can be used flexibly with a wide range of curricula
- Take 15-20 minutes to complete each assignment

*critical behaviors highlighted in the CCSS-M Practice Standards

“AlgebraByExample puts into action the lessons learned from decades of laboratory research - students should work from an abundance of examples.”

Ken Koedinger, Professor – Carnegie Mellon University

“My students like these assignments because understanding the mistakes is like solving a puzzle.”

Laura Albright – Arlington Public Schools (VA)

serpinstitute.org/algebra-by-example