

ZMATH 2015d.00681

Brizuela, Bárbara M.; Earnest, Darrell

Multiple notational systems and algebraic understandings: the case of the “best deal” problem.

Kaput, James J. (ed.) et al., Algebra in the early grades. London: Routledge (ISBN 978-0-8058-5472-5/hbk; 978-0-8058-5473-2/pbk). Studies in Mathematical Thinking and Learning Series, 273-301 (2008).

From the text: In Chapter 11, the authors look at students in the process of trying to coordinate diverse representations of the same function. Students are asked to decide which is a better birthday present: (a) receiving \$ 2 for each dollar one already has, or (b) receiving \$ 3 for each dollar one has, but having to return \$ 7 to the giver. Nine-year-old students initially favor one deal over the other. But when they consider a variety of scenarios, they realize that the outcome varies according to the starting amount. The authors focus on the students’ work of making and interpreting graphs, and coordinating information in a graph with information in a table.

Classification: H12 C32 E42 I22

Keywords: early education in algebra; algebraic reasoning; primary education; educational research; multiple representations; interviews; modes of representation; concept formation; mathematical language; terminology; notation; mathematical symbols; tables; graphical representations; linear functions