

ZMATH 2016d.00933

Yoon, Caroline; Miskell, Tessa

Visualising cubic reasoning with semiotic resources and modeling cycles.

Saézn-Ludlow, Adalira (ed.) et al., Semiotics as a tool for learning mathematics. How to describe the construction, visualisation, and communication of mathematical concepts. Rotterdam: Sense Publishers (ISBN 978-94-6300-336-0/hbk; 978-94-6300-335-3/pbk; 978-94-6300-337-7/ebook). Semiotic Perspectives in the Teaching and Learning of Mathematics Series 3, 89-109 (2016).

Summary: Diagrams and physical manipulatives are often recommended as useful semiotic resources for visualising area and volume problems in which nonlinear reasoning is appropriate. However, the mere presence of diagrams and physical manipulatives does not guarantee students will recognise the appropriateness of nonlinear reasoning.

Classification: U60 E50 G30 M60 M50

Keywords: reasoning; diagrams; modeling; physical manipulatives; semiotics; area; volume

doi:10.1007/978-94-6300-337-7_5