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**Diagnostic testing in mathematics: paired questions.**

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Diagnostic testing in mathematics has become a favoured tool at many universities. In this paper we report on a novel method of diagnostic testing which incorporates a paired question approach, with two questions being set on each of 20 different topics. It was introduced at Loughborough University for use with first year engineering students in 2002. The structure was chosen to allow easy identification, and subsequent follow up, of topics where the students needed extra help. However, it was found that many students got one question of a pair correct and one incorrect. This paper analyses the paired questions in detail and suggests why this happened. It also comments on the validity of the test used. Finally, it provides recommendations for practitioners in this field who are considering adopting the paired question approach and also for those involved in computer-assisted assessment. (orig.)

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