

國立彰化師範大學 99 學年度碩士班招生考試試題

系所：科學教育研究所

組別：甲組

科目：數學教育

☆☆請在答案紙上作答☆☆

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1. 名詞解釋（請翻譯並解釋下列專有名詞，每題 6%，共計 30%）
 - (1) CK (content knowledge)
 - (2) authentic assessment
 - (3) problem solving
 - (4) scaffolding
 - (5) mathematical inquiry

2. 請寫出以下文句的大意並加以詮釋 (20%)

Conceptual understanding refers to an integrated and functional grasp of mathematical ideas. *Procedural fluency* refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently. *Strategic competence* refers to the ability to formulate mathematical problems, represent them, and solve them. There are mutually supportive relations between strategic competence and both conceptual understanding and procedural fluency. (National Research Council, 2001, pp.118; 121; 124; 127)

3. 數學教育的目的是什麼? (20%)

4. 你要如何達成上題中的目的? (30%)