

The Art of Problem Posing

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Thursday Sept 17th at 4:30PM, LMX387

Abstract

The key to mathematical research is not getting the right *answer*, but asking the right *question*. In my own experience as a mathematician for the Government of Canada, my greatest insights have come when I am able to ask the right question, and realize that a complex problem in border security or border management can be turned into an equivalent, and simpler, problem in mathematics. The bulk of my work is spent figuring out the right question, rather than doing the mathematics to arrive at the right answer.

If part of the duty (and opportunity) of mathematics educators is to inspire our students to think more mathematically, why do we spend most of our classroom time teaching students how to solve problems, rather than leading them to ask questions?

In this informal and interactive workshop, we'll discuss the art of *problem-posing* and how this leads our students to become more creative, think more deeply, expand their problem-solving repertoire, and discover connections between seemingly unrelated areas of mathematics.

We will explore how problem-posing helps educators improve their teaching and empowers students to take more initiative for their learning.