MEI Mathematics Education Innovation

Advanced Mathematics Support Programme

University of BRISTOL

Moving Mount Fuji

(by Thilo Gross)

How many dump trucks would you need to move mount Fuji[1]?

This is a classic job-interview question and we can find an answer by a so-called a Fermi estimate: We break the answer into little pieces, each easier than the question as a whole.

The volume of a pyramid is a a third of the volume of the box into which the pyramid would fit. Fuji is a mountain, not a pyramid, but we can use this formula to roughly estimate its volume

$$ V = $$

So given this volume we can estimate the approximate mass of mount Fuji

$$ M = $$

How many trucks would it need to move this mass?

$$ N = $$

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[1]You may asume that the mountain is about 4km tall