

MATHEMATICS ENRICHMENT CLUB.  
Problem Sheet 10, July 30, 2013

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1. Simplify  $(x^{-1} + y^{-1})^{-1}$ .
2. What is the least positive integer  $n$  such that  $60n$  is a cube?
3. Show that the number 13950264876 is not a square by thinking about divisibility by 3.
4. The angles in a triangle are in the ratio 2 : 3 : 4. Find, in degrees, the size of the largest angle.
5. Suppose the median from the vertex  $C$  of a triangle  $ABC$  has length  $1$