



MATHEMATICS ENRICHMENT CLUB.
Solutions to Problem Sheet 9, July 22, 2014

3. 2×10^{23} meters
4. (a) $m_3 + m_4$
(b) $m_3 = 2, m_4 = 1$.
(c) Something like $m_1 d_1 = m_3 d'_3 + m_4 d'_4$
5. (a) 5.
(b) Try not to break anything.
(c) Since the series $1 + 1/2 + 1/3 + \dots$ diverges, the overhang can be infinite. But you will need to use a lot of bricks.
6. (a) Halfway between A and B
(b) The centroid.
(c) The centroid.
7. Consider a convex quadrilateral $ABCD$.
(d) They are colinear, and in the ratio $1 : 2$.