



STEP III, 2013 , Q10 EC

10. The number of candidates attempting this was almost identical to that attempting question 3 with marginally more success making it the third best attempted question. Most obtained the moment of inertia correctly, and many found the angular velocity correctly. Provided that they had correctly applied conservation of angular momentum, and Newton's law of elasticity, they almost all worked out the required result. Some attempted to use conservation of linear momentum whilst others did not use conservation of angular momentum correctly. Most then knew how to differentiate, but many made computation errors. Even if they got the correct quadratic equation at the end, many solve d it wrongly. Very few showed that the feasible solution did indeed generate a maximum.



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