

STEP II, 2015, Q7 EC

Question 7

The first part of this question was generally well answered, although a significant number of answers did not give the equation of the new circle. The case in part (i) where the two circles have the same radius was often not considered and the explanations for there not being such a circle in some cases were often not sufficiently clear. A significant number of candidates made the incorrect assumption in the second part that the centres of the three circles must lie on a straight line or attempted this part of the question with incorrect methods, such as equating the equations of the two given circles. In the final part of the question not all candidates realised that y^2 must be positive and were unable to obtain the required inequality by any other means.



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