

MASSACHUSETTS MATHEMATICS LEAGUE
JANUARY 2005
ROUND 1 ANALYTIC GEOMETRY ANYTHING
ANSWERS

A) _____

B) _____

C) _____

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- A) The points $(3,1)$, $(1,3)$, and $(-2,1)$ are three of the vertices of a parallelogram. Give all possible coordinates for the fourth vertex.
- B) Given graphs of $x^2 + y^2 = 20$ and $(x - 5)^2 + (y - 5)^2 = 10$, find the coordinates of all points of intersection.
- C) The second degree equation $6x^2 - 5xy - 6y^2 - 29x - 2y + 28 = 0$ represents a pair of perpendicular lines which intersect at P. Find the coordinates of P.