MASSACHUSETTS MATHEMATICS LEAGUE
JANUARY 2004
ROUND 4: QUADRATICS

ANSWERS

A)_____

B)_____

C)_____

A) For what values of k will the equation $2x^2 - kx + 8 = 0$ have two equal real roots?

B) The area of a square piece of tin is 625 sq. in. Squares of equal size are cut out of the two top corners. Larger squares, each four times the area of a top corner square, are cut out of the two bottom corners. Calculate the perimeter of the resulting figure if its area is 535 sq. in.

C) If one root of $ax^2 + bx + c = 0$ is x = -2, b + c = 0, and a + b = 7; find the value of b.