

MASSACHUSETTS MATHEMATICS LEAGUE
NOVEMBER 2004
ROUND 3 GEOMETRY: AREA

ANSWERS

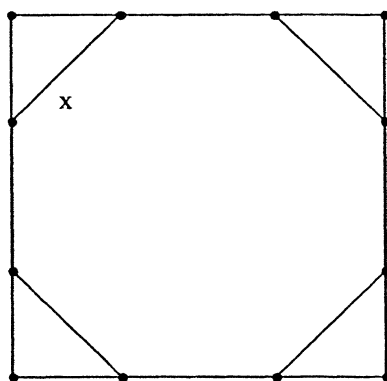
A) _____

B) _____

C) _____

- A) The largest square that fits in a 2 by 3 rectangle is one with area 178. Find the area of the 2 by 3 rectangle.

- B) If a regular octagon of side x is inscribed in a square of side 1 as shown below, find x in simplified radical form.



- C) Given right triangles ABC and BCD below with $\angle A = 45^\circ$, $\angle D = 30^\circ$, and $DE = 12$, find the area of triangle BCE in simplest radical form.

