MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2017
ROUND 5 PLANE GEOMETRY: ANYTHING

ANSWERS

A) _____

B) _____

C) _____

A) In ΔABC, $AB = x + 3$ and $BC = 2x - 1$, for positive integers x.
Compute the minimum value of x for which the perimeter of ΔABC is 51.

B) A 12-gon has a diagonals and an 18-gon has b diagonals. How many sides does a polygon P with $(a + b)$ diagonals have?

C) The repeating pattern in my kitchen floor tile (sans the dreadful color combination) is shown at the right. The small shaded squares inside rectangle $ABCD$ are x inches on side.
$DC = 3x + y$, $AD = 6x$, $AC = 45$ (inches)
If y is 50% more than x, compute the area (in square inches) of this rectangular pattern $ABCD$.