

QUESTION 1 (Source: MATHCOUNTS)

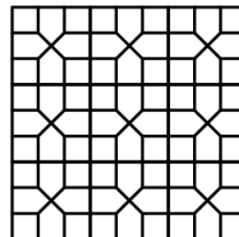
What is the maximum possible area of a rectangle with a diagonal of length 7 cm?
Express your answer as a common fraction.

QUESTION 2 (Source: State Math)

What is the last digit of 3^{2014}

QUESTION 3 (Source: [AMC](#))

The plane is tiled by congruent squares and congruent pentagons as indicated.
The percent of the plane that is enclosed by the pentagons is closest to



QUESTION 4 (Source: [AMC](#))

How many positive integers not exceeding 2001 are multiples of 3 or 4 but not 5?

QUESTION 5 (Source: [AMC](#))

What is the median of the following list of 4040 numbers?

$1, 2, 3, \dots, 2020, 1^2, 2^2, 3^2, \dots, 2020^2$