



PoTW 18: Week of 9-25-2021

Problem of the Week at shsmathteam.com

Submission form: [link to submit](#)

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Alternatively, you can message Andrew Liu on Facebook Messenger. Please don't be afraid to reach out for help, asking for hints is heavily encouraged if you feel stuck.

Problem of the Week #18: AMC Week 1

Some AMC prep for the upcoming tests in November (:

Let S be the square one of whose diagonals has endpoints $(0.1, 0.7)$ and $(-0.1, -0.7)$. A point $v = (x, y)$ is chosen uniformly at random over all pairs of real numbers x and y such that $0 \leq x \leq 2012$ and $0 \leq y \leq 2012$. Let $T(v)$ be a translated copy of S centered at v . What is the probability that the square region determined by $T(v)$ contains exactly two points with integer coordinates in its interior?