

PROBABILITY

- 2004A 5. (C) The number of three-point sets that can be chosen from the nine grid points is

$$\binom{9}{3} = \frac{9!}{3! \cdot 6!} = 84.$$

Eight of these sets consist of three collinear points:

3 sets of points lie on vertical lines, 3 on horizontal lines, and 2 on diagonals.
Hence the probability is $8/84 = 2/21$.