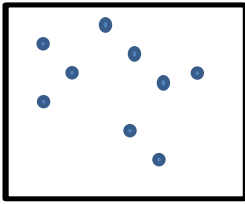


Let S be a square region (in the plane) of side length 2 inches.



S

In our case if we have 9 points in S , we have at least 3 points, which link them can't cover the square of $\frac{1}{2}$ square inch. It happens because we can't place all 9 points in the way that distance between them was sufficient to cover $\frac{1}{2}$ square inch.