

Second round of problems for Grades 8-9.

6. Consider a set of finitely many points on the plane such that if we choose any three points A, B, C from the set, then the area of the triangle ABC is less than 1. Show that all of these points can be covered by a triangle whose area is less than 4.

7. A palindrome is a number that is the same when read forward and backward. For example, 1771 and 23903030932 are palindromes. Can the number obtained by writing the numbers from 1 to n in order be a palindrome for some $n > 1$? (For example, if $n = 11$, the number obtained is 1234567891011, which is not a palindrome.)