Data Structures and Algorithms

Give an algorithm which selects the median value from an array of $n$ values explaining how the possible execution time depends on $n$. (You should clarify the word “possible”.)

Describe two tests. The first should determine whether two line segments intersect. The second should determine whether a given (half-infinite) straight line from a point $(x, y)$ in the direction $(u, v)$ [thus the points on the line are $(x + \mu u, y + \mu v)$ for $\mu \geq 0$] intersects a given polygon other than at a vertex.