

Prof. Dr. Sándor Fekete
Christian Rieck

**Question Sheet
Quiz 1 for Nov 03, 2020**

Which is the correct answer?

Question 1:

What is the topic of today's lecture?

- Voronoi diagrams
- Closest pairs
- Polygon triangulation
- Convex hulls
- Delaunay triangulations

Question 2:

Where has the workload for robots spiked in recent months?

- VW
- Automated phone calls
- Amazon
- Surgery

Question 3:

What plays a central role for algorithmic runtime bounds?

- Processor speed
- “Large” input sizes
- Memory allocation

Question 4:

How long does it take to compute a median for a set of n numbers?

- $O(1)$
- $O(\log n)$
- $O(n)$
- $O(n \log n)$
- $O(n^2)$

Question 5:

What is an efficient way to compute the position of a point relative to a directed line?

- Compute the angle between line and a vector to the point
- Compute the sine of the angle between line and a vector to the point
- Compute the determinant of a 3x3 matrix induced by point coordinates

Question 6:

Which of the following is the most efficient way for deciding whether two line segments intersect?

- Compute the determinants of four 3x3 systems
- Solve a linear equation and check two parameter intervals
- Compute the convex hull of all points, then check point order