Problem of the Week: Week 3 (Sum2): Year 9: Statistics

- Construct and interpret tables, charts and diagrams
- Describe, interpret and compare measures of central tendency and spread

Charting Success

Below are some graphs, charts and diagrams created by sports statisticians, trainers or competitors to help then to analyse performance, inform training programmes or improve motivation. Choose one or two of these pictures and answer the questions below the picture:

Shots on and off target for one team in a football match

| All	22
○ Goals	6
● On target	1
● Off target	8
● Blocked	7

- How accurate would you say the attacking team was?
- How effective was the defending team in preventing goals?
- If you were attacking, which side of the goal would you aim for?
- How does the chance of scoring a goal change with the distance from the goal?

## Finishing scores of the top ten athletes in Olympic heptathlon
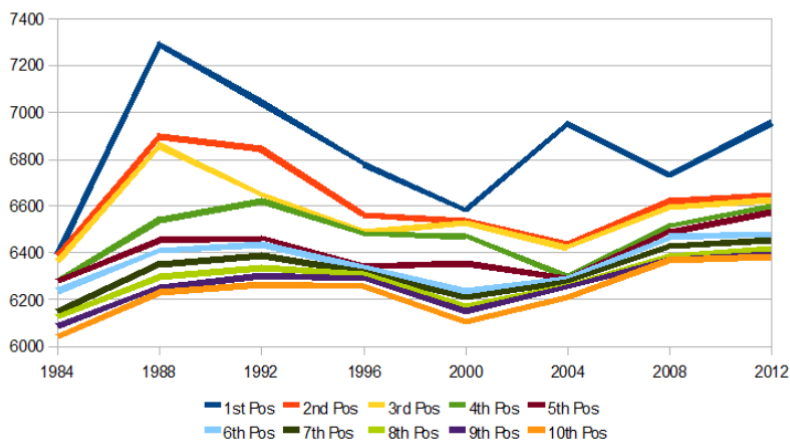
- Which positions tend to be grouped together, and which are spread out?
- Which year had the highest performing winner?
- Which year had the closest competition?
- Imagine you were competing in this event, what score would you need to achieve in order to win a medal?

Scatter plot showing Federer's first serve landing points
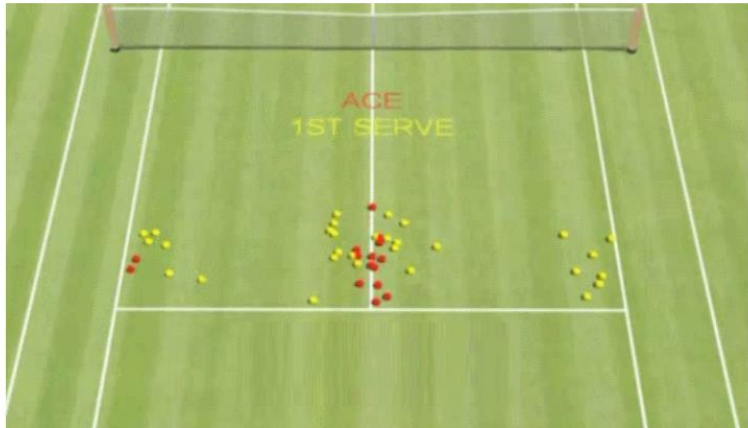
- Where did Federer score the most aces?
- Where would be the best place to stand to return the serve?
- What other information would be useful to have on this plot?
- What is the likelihood that Federer will score and ace?

League positions of teams in a football league during a season
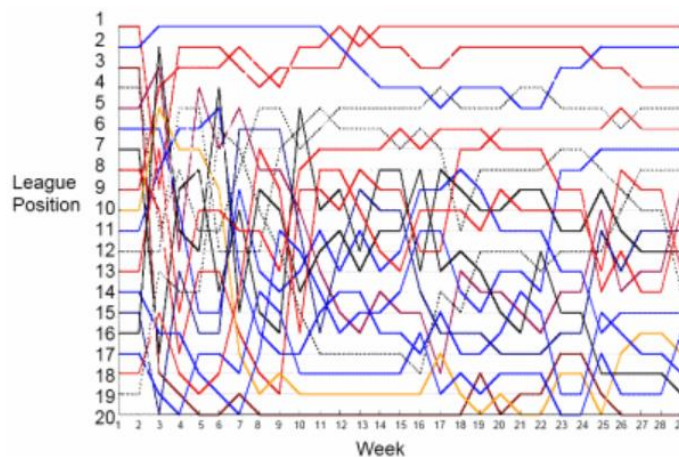
- Why is there so much variance in position early in the league?
- How could this chart be made clearer?
- Which team changed position the most? How could you measure this?
- Which team changed position the least?

https://nrich.maths.org/7735