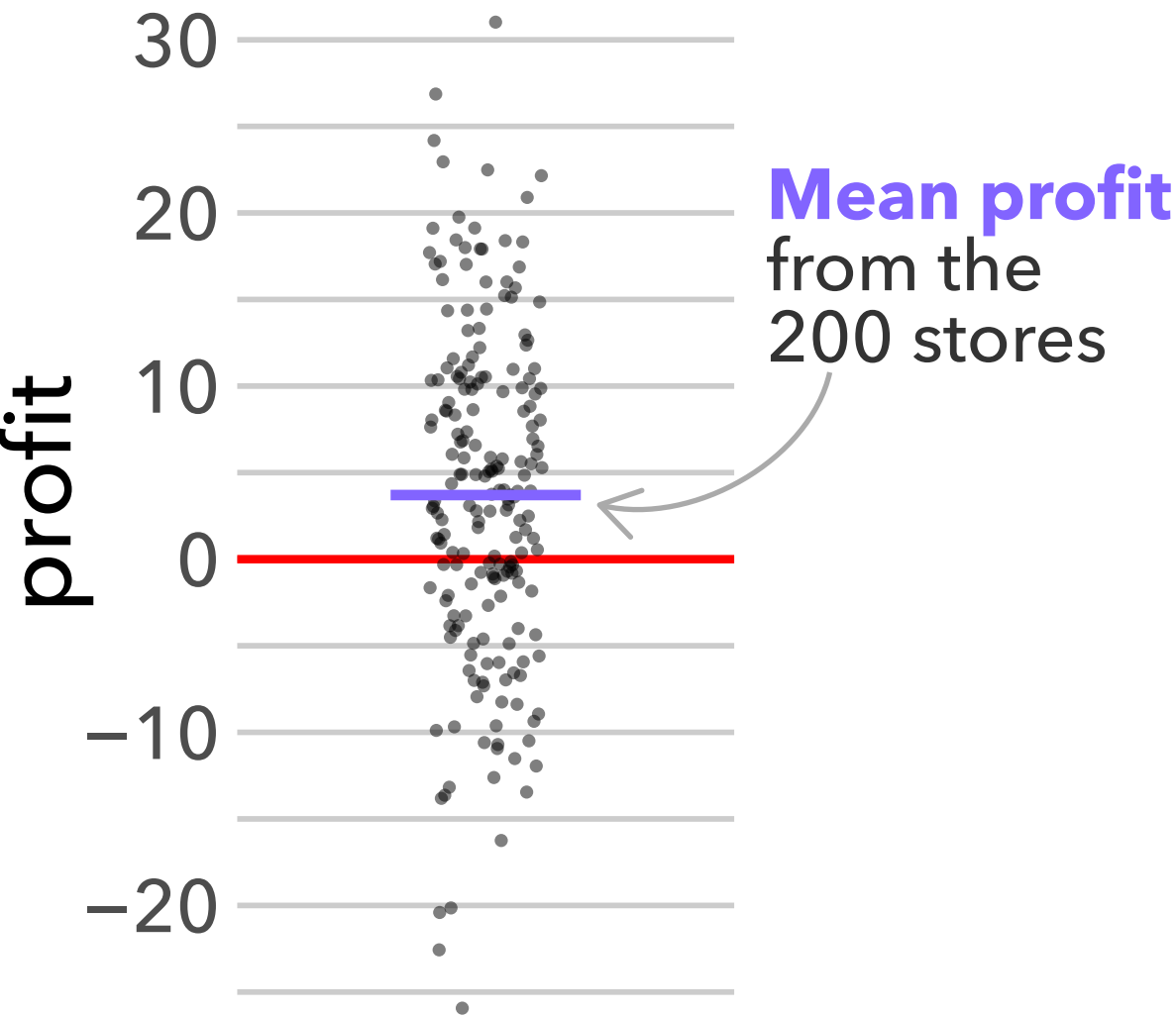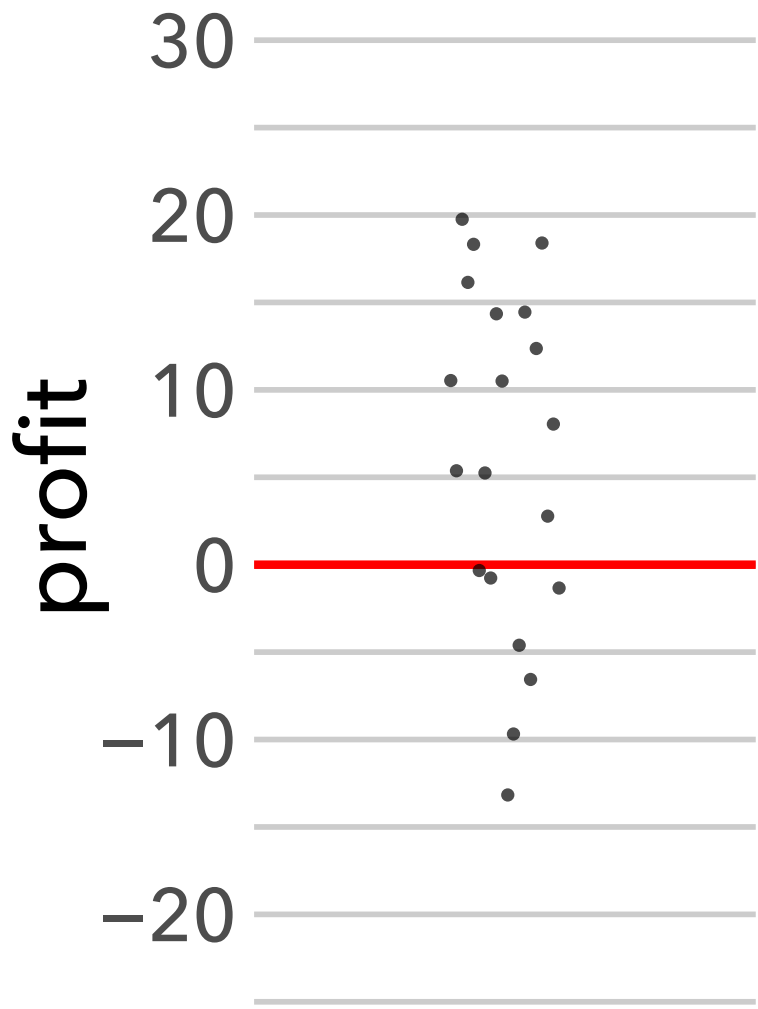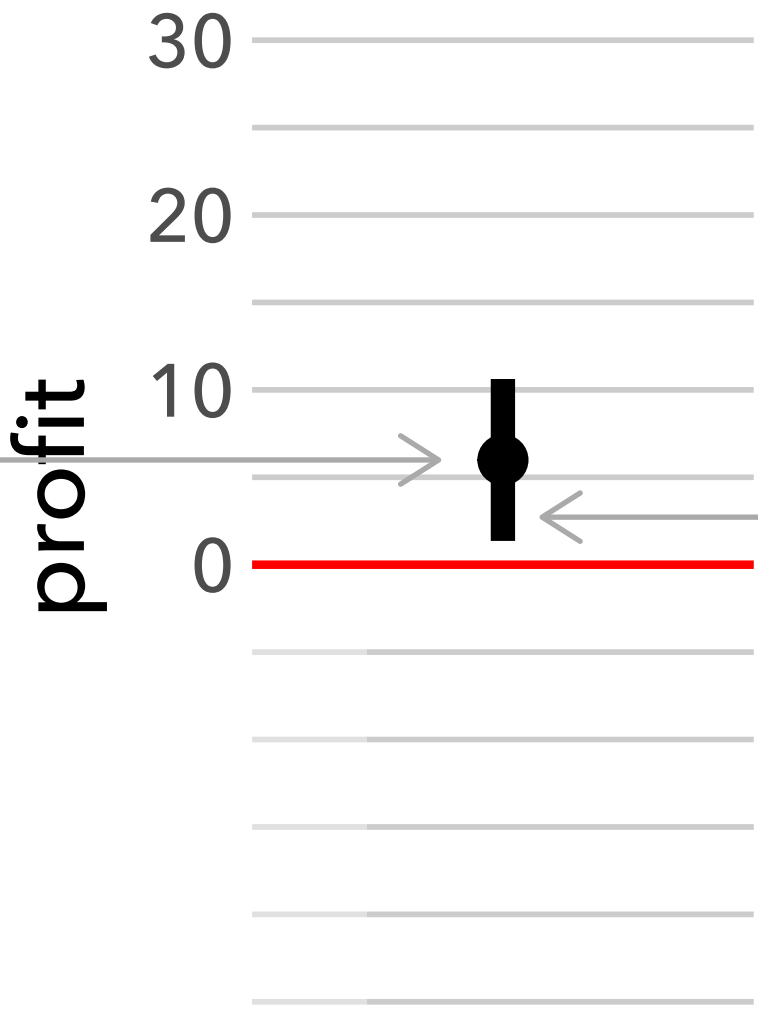You are a manager supervising the sales of stores. In each region there are 200 stores. The graph below shows what the profit for each store looks like. Your task will be to guess whether the average profit of the stores in a region is greater than zero

However, you only receive the sales data for 20 stores, and you have to make the decision based on this limited information.

To help you with the decision, your business analyst used statistics and created a plot which shows the *mean of the 20 data points*. Since there are only 20 data points, this estimate of the mean will be uncertain. The *vertical bar depicts the uncertainty* in this estimate as a 50% confidence interval

Mean profit from the 200 stores

Note: A 50% confidence interval is constructed such that if we repeated this process many times, roughly 50% of the constructed intervals would contain the true mean.