1) There is a 3.6% chance that a sample of 300 people to Mike's will have less than 14% order their cheeseburger with no cheese. (Table: 3.59%, GC: 3.567%)

2) There is a 93% chance that in a sample of 600 adults age 40-49, more than 39% can identify the book or movie with Z.B. (Table: 93.19%, GC: 93.17%)

3) There is a 61% chance that in a sample of 150 Iowa adults in 2010, between 50% and 60% were married. (Table: 61.01%, GC: 61.16%)

4a) There is a 66% chance that in a sample of 200 religious people, the sample proportion who celebrate with a Palmer bunny is between 24% and 30%.
4b) There is a 99.7% chance that in a sample of 2000 religious people, the sample proportion who celebrate with a Palmer bunny is between 24% and 30%.
c) In a larger sample, the sample proportion is more likely to be close to the mean (here, between 24% and 30%) than in a smaller sample.

5) We are 99% confident that between 33.7% and 44.0% of all 2023 WEF visitors are from Davis or on campus.

6)a) The margin of error is 3.35 percentage points.
b) To reduce to 2 percentage points, we need about 2245 people, which is 1443 more than what we currently have.

7) We are 90% confident than between 13.1% and 15.7% of all adult Americans watch TCCT.

8a) We are 99% confident that Measure 27 will get between 37% and 83% of all votes.
b) Noticed.
c) Right. Right, it's 10 percentage points higher. But not nearly enough to predict the outcome; the actual proportion could easily be as low as 37% or as high as 83%.
d) Right.
e) You need sample sizes much larger than 30 to predict an election.
f) We cannot confidently say the team is better than average. They might be pretty lousy, actually, and just got off to a lucky start. They might end up winning only 37% of the rest of their games. We'll just have to wait and see.