PSTAT 5A: MT2 Practice Multiple Choice Questions

1. What is the expected number of heads in 10 independent tosses of a fair coin?
   - ○ 0.0000
   - ○ 1.0000
   - ○ 1.5492
   - ○ 5.0000
   - ○ None of the above.

2. What is the correct syntax to import the `scipy.stats` module with the nickname `sps`?
   - ○ `import scipy.stats as sps`
   - ○ `import scipy.stats with name sps`
   - ○ `import.scipy.stats.sps`
   - ○ `import scipy.stats with nickname sps`

3. The weights of adult male chickens is normally distributed with mean 5.7 lbs and standard deviation 1.2 lbs. What is the probability that a randomly selected chicken will have weight exactly equal to 6.1 lbs?
   - ○ 0.0000
   - ○ 0.0714
   - ○ 0.2666
   - ○ 0.3145
   - ○ None of the above.

4. Which of the following correctly computes the critical value in a hypothesis test with an $\alpha = 0.05$ level of significance? Assume the test statistic is normally distributed under the null, and assume all necessary modules have been imported and that no modules have been imported with a nickname.
   - ○ `scipy.stats.norm.ppf(0.025)`
   - ○ `-scipy.stats.norm.ppf(0.025)`
   - ○ `numpy.stats.norm.ppf(0.025)`
   - ○ `-numpy.stats.norm.ppf(0.025)`
   - ○ None of the above.

5. The QQ-plot of a variable called x is displayed below:
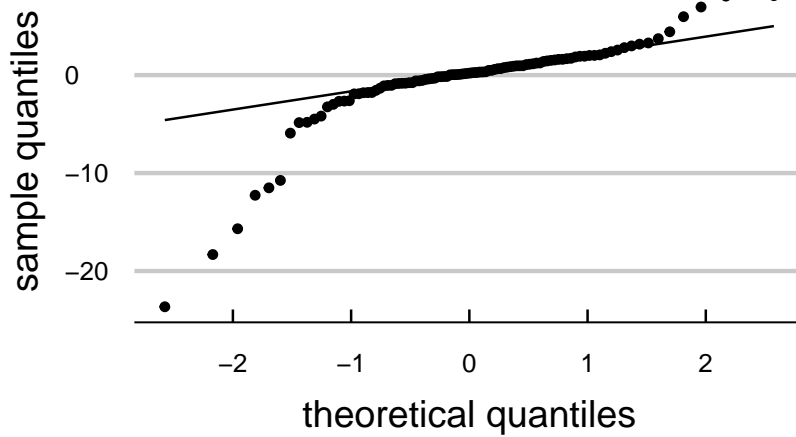
Which of the following statements is the correct interpretation of this QQ-plot?

○ The plot indicates normality in x because there are significant deviations from linearity in the tails of the plot.

○ The plot indicates non-normality in x because there are significant deviations from linearity in the tails of the plot.

6. Do higher confidence levels lead to wider or narrower confidence intervals?

○ Wider

○ Narrower

7. Which of the following is **not** one of the Binomial Conditions?

○ Independence across trials

○ Fixed number of trials

○ $n(1 - p) \geq 10$

○ Well-defined notion of "success" and "failure"

○ None of the above

8. What is the 90th percentile of the t_{20} distribution?

○ 1.33

○ 1.72

○ 2.09

○ 2.53

○ 2.85