

1. (d) is correct
3. (c) is correct
4. (a) It is a statistic and is denoted as \hat{p} .
- (b) Whatever the number of slips of paper, we make 30% of them different somehow (perhaps they have the word "success" on them) from the other 70% (maybe they have "failure" on them). We draw slips from the bag, one at a time, recording the word for each, then putting it back in the bag and remixing before our next draw. We have a bootstrap sample once the number of draws matches Eva's sample size. Our bootstrap statistic:

$$\hat{p} = \frac{\text{count of successes}}{\text{sample size}}.$$

- (c) Counting 10 points in from left and right gives

1st percentile: 0.20

99th percentile: 0.42

- (d) This interval, $(0.2, 0.42)$, carries 98% confidence level.

- (e) lower/upper bounds = $0.3 \pm (2)(0.0521)$, or $(0.1958, 0.4042)$.