Form A

1. (d) is correct

3. (d) 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 $= 0.3 \pm (2)(0.0445)$, or (0.211, 0.389).