Name_____ADDITIONAL Practice for confidence intervals for p hour 1 2 3 4 5 6 7 Date 1-11-17

Useful Formulas

$(\hat{p} - E, \hat{p} + E)$ $\quad \hat{p} - E < p < \hat{p} + E$ $\quad \hat{p} \pm E$ $\quad E = z_{\frac{\alpha}{2}}\sqrt{\frac{pq}{n}}$ OR $E = CV\sqrt{\frac{pq}{n}}$

$n = \frac{\left(z_{\frac{\alpha}{2}}\right)^2 pq}{E^2} = \frac{(CV)^2 pq}{E^2}$ $\quad n = \frac{\left(z_{\frac{\alpha}{2}}\right)^2 \cdot 0.25}{E^2} = \frac{(CV)^2 \cdot 0.25}{E^2}$

1. (18, 35) is given as a confidence interval for p

State $\hat{p}$ State E

Missing confidence interval #1 Missing confidence interval #2

2. $36 < p < 56$ is given as a confidence interval for p

State $\hat{p}$ State E

Missing confidence interval #1 Missing confidence interval #2

3. 170 ± 42 is given as a confidence interval for p

State $\hat{p}$ State E

Missing confidence interval #1 Missing confidence interval #2

4. Given n = 800, x = 550, Confidence level 95%

$\hat{p}$ q

CV E

Tolerance Notation Confidence Interval

Interval Notation Confidence Interval

5. Given n = 600, x = 372, Confidence level 52%

$\hat{p}$ q

CV E

Tolerance Notation Confidence Interval

Interval Notation Confidence Interval

6. Sample size is 2000 of which 1654 are successes Confidence level 99%

$\hat{p}$ q

CV E

Tolerance Notation Confidence Interval

Interval Notation Confidence Interval

7. Sample size is 2000 of which 512 are failures Confidence level 90%

$\hat{p}$ q

CV E

Tolerance Notation Confidence Interval

Interval Notation Confidence Interval

8. Margin of Error = 0.0425 confidence level 95% p and q are unknown N = _____	9. Margin of Error = 0.038 confidence level 90% p is estimated from a prior study to be approximately 58% N = _____	10. Margin of Error: fourteen percentage points, confidence level 99%, and q from a prior study is known to be 65% N = _____

Textbook Resources Read pp320-330 Additional Practice is available in the Green textbook on page 333 #1-28

11. I use $E = z_{\frac{\alpha}{2}}\sqrt{\frac{pq}{n}}$ OR $E = CV\sqrt{\frac{pq}{n}}$ if _____

12. I use $n=\frac{\left(z_{\frac{\alpha}{2}}\right)^2 pq}{E^2}=\frac{(CV)^2 pq}{E^2}$ if _____

13. I use $n=\frac{\left(z_{\frac{\alpha}{2}}\right)^2 \cdot 0.25}{E^2}=\frac{(CV)^2 \cdot 0.25}{E^2}$ if _____

14. Explain the steps in finding a confidence interval for a population proportion if we have an ordinary confidence level like 60%

15. Explain how to determine the other two intervals for the given confidence interval 50 ± 10

16. Explain how to determine the other two intervals for the given confidence interval (10, 70)