

1. 0
2. 1
3. He is in the bottom 5%
4. 43
5. 0.571
6. -1.49
7. 0.6415
8. approximately 1.48
9. +/- 1.0966
10. 27
11. 82
12. 97
13. The point estimate of the population mean is 4.400 (the midpoint of the confidence interval). The limits of the confidence interval are interpreted to mean that if repeated samples were drawn from this population, the sample mean would be between 4.355 and 4.445 for approximately 90% of the samples.
14. The 95% confidence interval is calculated as follows:

$$52,500 - (1.96) \left( \frac{1800}{\sqrt{200}} \right) < \mu < 52,500 + (1.96) \left( \frac{1800}{\sqrt{200}} \right)$$

$$52,250.53 < \mu < 52,749.47$$

The 95% confidence interval is then: (52,250.53, 52,749.47).

This interval implies that if repeated samples are drawn from this population, the sample mean would be between 52,250.53 and 52,749.47 for approximately 95% of the samples.

15. The sample proportion is  $\hat{p} = \frac{12}{80} = 0.15$

The 95% confidence interval is calculated as follows:

$$0.15 - (1.96)\sqrt{\frac{(0.15)(1-0.15)}{80}} < p < 0.15 + (1.96)\sqrt{\frac{(0.15)(1-0.15)}{80}}$$

$$0.0718 < p < 0.2282$$

The 95% confidence interval for the proportion of incomplete files is thus:

$$(0.0718, 0.2282) \quad (\text{round off if necessary})$$

The interpretation of this confidence interval is that if repeated samples are drawn from this population, the sample proportion would be between 0.0718 and 0.2282 for approximately 95% of the samples.